

1                   IN THE CIRCUIT COURT OF THE  
2                   11TH JUDICIAL CIRCUIT, IN AND  
3                   FOR DADE COUNTY, FLORIDA  
4                   GENERAL JURISDICTION DIVISION  
5                   CASE NO.: 94-08273 CA (20)

6                   HOWARD A. ENGLE, M.D., et al.,  
7                   Plaintiffs,

8                   v.

9                   RJ REYNOLDS TOBACCO COMPANY,  
10                   et al.,

11                   Defendants.

12  
13                   66 West Flagler Street  
14                   Miami, Florida  
15                   Tuesday, August 12, 1997  
16                   12:25 p.m. - 4:00 p.m.

17                   DEPOSITION OF RONALD LUKAS

18                   Taken before Donna Gunion, Notary  
19                   Public for the State of Florida at Large,  
20                   pursuant to Notice of Taking Deposition filed in  
21                   the above cause.

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## APPEARANCES

STANLEY M. ROSENBLATT, P.A.,  
By: JOHN HOAG, ESQ.,  
Attorneys for Plaintiffs.

BRYAN CAVE, LLP,  
By: ROBERT SHELY, ESQ.,  
and  
RODNEY OTT, ESQ.,  
Attorneys for Defendants.  
(Via telephone).

I N D E X

EXHIBITS

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1 | Thereupon:

RONALD LUKAS

3 was called as a witness by the plaintiffs, and  
4 having been first duly sworn by Kathy Stine,  
5 Notary Public, was examined and testified as  
6 follows:

**DIRECT EXAMINATION**

8 | BY MR. HOAG:

9 Q. Can you state your name for the  
10 record, please?

15 I have with me my colleague, Rodney  
16 Ott, O-t-t, who is also an attorney at  
17 Bryan Cave in Phoenix.

21                   We are here on a case involving Howard  
22                   Engle who is a member of a class who's the  
23                   named class representative in the lawsuit  
24                   which is filed in Miami, Florida, and the  
25                   lawsuit is involving all of the major

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1 tobacco companies.

2 BY MR. HOAG:

3 Q. Now, before we make any other  
4 announcements on the record, I just want to get  
5 the name of the witness on the record so, Mr.  
6 Lukas, could you just, for the record, state  
7 your name?

8 A. My name is Ronald Lukas, L-u-k-a-s.

9 Q. And you have a Ph.D., is that correct?

10 A. That's correct.

11 Q. So before I start asking you any  
12 additional questions, Doctor Lukas, when we were  
13 off the record we were briefly discussing the  
14 nature of this deposition.

15 The deposition is being taken in  
16 Phoenix by myself and I'm in Miami, so it's  
17 being taken over the telephone. You're in  
18 Phoenix, Arizona along with the two attorneys  
19 who have already named themselves and the court  
20 reporter and myself are here in Miami, Florida.

21 You have been sworn in by a person  
22 who's been notarized to swear people in, I  
23 suppose, in the State of Arizona, is that  
24 correct?

25 MR. SHELY: Well, he doesn't have any

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1 basis for knowing that she's a notary  
2 public in the State of Arizona.

3 MR. HOAG: Who can take sworn  
4 statements from people in Arizona, is that  
5 right?

6 MR. SHELY: I don't know what the  
7 rules are in Arizona about that. I just  
8 know she's a notary public.

9 MR. HOAG: And it was your request as  
10 the attorney representing CTR, that someone  
11 there swear the witness in and you -- this  
12 person works in your office and is a  
13 secretary in your office that has  
14 identified the witness who has been sworn  
15 in, correct?

16 MR. SHELY: Yes. I don't know that it  
17 was my request, but I just think it makes  
18 sense to have somebody physically on site  
19 and, I don't know, because I've not been  
20 involved in your series of depositions, I  
21 don't know what your standard procedure  
22 is.

23 So, what I have suggested doing is  
24 having a notary public here swear him in  
25 which has occurred on the record and then

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1 I'll take this chance to note my objection  
2 to the absence of a court reporter on site  
3 and I don't know exactly what the  
4 ramifications of that are. I just want to  
5 preserve objections for the future to the  
6 extent that the procedure here is somewhat  
7 irregular and I'm going to allow you to  
8 take the deposition, but I just want to  
9 preserve the objection on the record.

10 MR. HOAG: What's your name again?  
11 Which attorney are you?

12 MR. SHELY: I'm Robert Shely. I'll be  
13 counsel of record. Bob. I don't go by  
14 Robert.

15 MR. HOAG: Okay, Bob.

16 And also for the record, this is a  
17 method of taking depositions that we have  
18 done commonly in both the Broin and the  
19 Engle case. And for the vast majority of  
20 the times we've taken the telephone  
21 depositions, the court reporter has been  
22 present in Miami.

23 I don't think anyone else has  
24 previously objected to it, but I understand  
25 you want to preserve any possible

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1                   objections for whatever reason, so you've  
2                   done that on the record now.

3                   Obviously also you can, if you want  
4                   to, have a court reporter there also. I  
5                   don't know if that's ever been done, if you  
6                   have any concern about the court reporter's  
7                   ability to transcribe this statement and,  
8                   of course, the court reporter will provide,  
9                   if you request it, a copy to you as quickly  
10                  as she can possibly get it to you, if you  
11                  want to expedite it, and the witness will  
12                  have an opportunity to read it, if that's  
13                  what you choose to have the witness do.

14                  MR. SHELY: Right. I don't know --  
15                  one clarification -- I don't know as a  
16                  practical matter that I could get a court  
17                  reporter here, but at this time we  
18                  understood the court reporter was going to  
19                  be here but the only point I want to make  
20                  is I think we've, you know, collectively  
21                  made the record and I don't have anything  
22                  further to say about it.

23                  BY MR. HOAG:

24                  Q. Doctor Lukas, have you ever been  
25                  deposed before?

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1           A.    No, I haven't.

2           Q.    And, again, because this is a  
3           telephone deposition, there may be some  
4           occasions when either you don't hear me clearly  
5           or I don't hear you clearly or the court  
6           reporter doesn't hear either one of us clearly.  
7           If that happens, I will tell you if I don't  
8           understand. The court reporter will tell both  
9           of us if she doesn't understand and I would like  
10           you to tell us if there's anything that you  
11           don't hear that's not clear to you for any  
12           reason over the telephone, okay?

13           A.    That's certainly fine with me.

14           Q.    And when I ask you questions, if you  
15           could always answer with words rather than nods  
16           of the head for obvious reasons for a telephone  
17           deposition, although we say this for any kind of  
18           deposition.

19                   So if you can make sure you give  
20           verbal responses, I would appreciate that. Is  
21           that okay?

22           A.    I understand.

23           Q.    If you need to take a break at any  
24           time, just let me know. We'll stop. We'll take  
25           a break whenever you feel you need one.

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1           A.    Okay. That's fine.

2           MR. SHELY: John, one quick question,  
3           not limiting you in any regard, just trying  
4           to get logistics here, how long do you  
5           suspect it will go?

6           MR. HOAG: My estimate now is two and  
7           a half, three hours.

8           MR. SHELY: Okay, that's fine. I just  
9           wondered if we were going to get into  
10           lunchtime, we would make arrangements for  
11           that.

12           MR. HOAG: Well, for me, you're  
13           already in lunchtime.

14           MR. SHELY: I know.

15           MR. HOAG: Okay. I understand what  
16           you're saying. If it starts to go into  
17           lunchtime, you could just stop me and ask  
18           again if I'm about through or not.

19           MR. SHELY: Okay.

20           MR. HOAG: But this is just my rough  
21           estimate.

22           MR. SHELY: I understand. I'm not  
23           trying to limit you.

24           MR. HOAG: Okay.

25           BY MR. HOAG:

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1 Q. You know that you've been listed as an  
2 expert witness in the Engle case, correct?

3 A. Are you addressing me?

4 Q. Yes. I'm addressing Doctor Lukas.

5 A. Yes, I realize that.

6 Q. What is your understanding of the  
7 Engle case?

8 A. My understanding is that it is a class  
9 action suit against the tobacco manufacturers  
10 and that the Council for Tobacco Research is  
11 also named as a plaintiff, I mean as a  
12 defendant.

13 Q. Have you read the lawsuit?

14 A. Yes, I have looked at the suit.

15 Q. And what is your recollection of what  
16 it alleges about CTR or the Council for Tobacco  
17 Research?

18 A. Well, in general terms, there are some  
19 issues about the integrity of the scientific  
20 research program that the Council for Tobacco  
21 Research administers, some allegations about  
22 hiding research results and about some collusion  
23 in a way between the tobacco companies and the  
24 Council for Tobacco Research.

25 Q. How did you come to have a copy of the

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1 lawsuit?

2 A. It was provided to me by the attorneys  
3 here at Bryan Cave, Mr. Ott and Mr. Shely.

4 Q. And how long ago did they provide it  
5 to you?

6 A. My recollection is it's been some time  
7 in April, March or April.

8 Q. And you're talking 1997?

9 A. '97, right.

10 Q. And was that the first time that they  
11 provided you with any document?

12 A. I believe the first things that I saw  
13 were lawsuits. I'm not certain what the proper  
14 term is for that document but I read -- one of  
15 the first things I read was the Engle case.

16 Q. And when you say the lawsuits, was  
17 there more than one lawsuit you read?

18 A. I also had an opportunity to examine  
19 the State of Arizona lawsuits against the  
20 tobacco companies.

21 MR. SHELY: Counsel, for the record,  
22 we're obviously talking about the complaint  
23 but Doctor Lukas isn't necessarily familiar  
24 with the legal terms.

25 MR. HOAG: Okay.

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1 BY MR. HOAG:

2 Q. Are you talking about the Attorney  
3 General's lawsuit or is it something other than  
4 the Attorney General's lawsuit in Arizona?

5 A. It's the Attorney General's lawsuit.

6 Q. Have you looked at any other state  
7 Attorney General lawsuit other than the Arizona  
8 lawsuit?

9 A. No.

10 Q. Are you listed as an expert or a fact  
11 witness of any kind in any other tobacco-related  
12 case involving CTR other than the Engle case?

13 A. At the moment, I'm also listed as an  
14 expert witness in the Texas Attorney General  
15 case.

16 Q. But not the Arizona case?

17 MR. SHELY: Counsel, if I can clarify  
18 it, we're just not at that stage yet.

19 MR. HOAG: And this is the attorney  
20 speaking, right?

21 MR. SHELY: This is Robert Shely  
22 speaking.

23 BY MR. HOAG:

24 Q. But from your personal knowledge at  
25 this point, your understanding is you've been

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1 listed as an expert in the Texas Attorney  
2 General case and in the Engle case so far?

3 A. That's correct.

4 Q. And you may be an expert in other  
5 Attorney General cases, but you don't -- that  
6 hasn't been decided yet?

7 A. That's correct.

8 Q. Aside from other Attorney General  
9 cases, where you may also in the future be  
10 listed as an expert, are there any other  
11 tobacco-related cases where you may be in the  
12 future listed as an expert as far as you know?

13 A. At the present, I haven't made any  
14 commitments along those lines.

15 Q. When were you first contacted in  
16 regard to being an expert witness for the  
17 Council for Tobacco Research?

18 A. I believe it was some time in March of  
19 1997.

20 Q. And prior to the time you were  
21 contacted in March of '97 to possibly be an  
22 expert for the Council for Tobacco Research, had  
23 you ever been contacted to be an expert in any  
24 other tobacco-related issue?

25 A. No, I haven't.

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1       Q.    And had you ever served as an expert  
2    in any issue prior to that?

3       A.    No, I have not.

4       Q.    And by any issue, I mean even things  
5    that aren't related to anything?

6       A.    You mean in a litigation context?

7       Q.    I mean in any context, asked to be an  
8    expert or asked to be a consultant as an expert?

9       A.    So outside of legal proceedings?

10      Q.    Let me break it down. I'll start with  
11    legal proceedings.

12           Other than the contact that happened  
13    in March of 1997 related to serving as an expert  
14    for CTR, have you ever been contacted to be an  
15    expert for any tobacco-related issue?

16      A.    It depends on how you define those  
17    issues. I have served as a reviewer on the  
18    nicotine study section for the California  
19    Tobacco Related Disease Research Program, and,  
20    hence, in a way I served as an expert there in  
21    that I'm evaluating research grant proposals  
22    that concern tobacco and issues of health.

23           And I also have reviewed grants for  
24    several other agencies, so if that qualifies me  
25    as being an expert, and in many cases since my

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1 expertise is in nicotine and nicotine receptors  
2 in the brain and body, that might fit your  
3 definition, but I'm not certain.

4 Q. Aside from serving as a reviewer for  
5 research, have you been contacted to be an  
6 expert for any other reason on anything related  
7 to tobacco issues?

8 MR. SHELY: Are you still talking just  
9 in a judicial context or in scientific  
10 expertise?

11 MR. HOAG: This is a broad question  
12 and he answered it broadly, and that's okay  
13 with me.

14 BY MR. HOAG:

15 Q. I mean, aside from what you just  
16 mentioned as being a reviewer for research  
17 that's related to nicotine, nicotine receptors,  
18 have you ever been contacted to be or have you  
19 ever been an expert in any tobacco-related  
20 issues other than for CTR?

21 A. Well, other than acting as a referee  
22 for research grant proposals, I also will review  
23 research articles that concern nicotine and  
24 nicotine receptors that obviously are related to  
25 tobacco, tobacco use.

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1                   I've been invited to give talks and  
2 run an organization symposia in some scientific  
3 societies including International Symposia on  
4 Nicotine and NATO, N-A-T-O, Symposia on Nicotine  
5 and its Targets in the Brain and Body.

6                   I have -- and so I have spoken widely,  
7 I've published widely. I've reviewed grants and  
8 papers. I served on an honorary board on a  
9 journal called Neurochemical Research in which  
10 many issues relating to tobacco and nicotine  
11 have been published.

12                  Q. Now let me separate out the question  
13 to only litigation.

14                  Other than the CTR litigation, CTR  
15 related litigation, where you were contacted to  
16 be possibly an expert beginning in March of  
17 1997, is there any other times where you have  
18 ever been contacted to be an expert for any  
19 litigation?

20                  A. I believe you've raised that question  
21 before. No, I haven't.

22                  Q. And when you were first contacted in  
23 March of '97, who contacted you?

24                  A. Rodney Ott.

25                  Q. Anyone else?

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1           A. Bryan Cave.

2           Q. You said -- from where?

3           A. From Bryan Cave, LLP, the legal  
4 practice here in Phoenix.

5           Q. And did anyone other than Rodney Ott  
6 contact you in March of 1997?

7           A. I spoke with Bob Shely as well.

8           Q. At the same time or separately?

9           A. I don't remember the details. I think  
10 the first contact was with Rodney and I don't  
11 remember whether Bob joined in during one of  
12 those conversations or subsequent interaction.

13           Q. Was the contact by telephone?

14           A. The initial contact, yes, was by  
15 telephone.

16           Q. And was it explained to you why you  
17 were being contacted to be possibly an expert  
18 witness?

19           A. Yes, it was.

20           Q. And what was explained to you?

21           A. It was explained to me that the  
22 Council for Tobacco Research was being named as  
23 a defendant in a series of class action and  
24 Attorney General's, Attorney General suits, and  
25 that it had been suggested that I might be

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1 willing to act as an expert witness on behalf of  
2 the Council for Tobacco Research.

3 Q. And how did they come to contact you?

4 A. I'm not privy to that information, I'm  
5 afraid.

6 Q. Did you ask?

7 A. No, I hadn't.

8 Q. No, you what?

9 A. No, I had not.

10 Q. Okay, so up to and including the time  
11 that we're talking right now, you've never asked  
12 how they came to contact you?

13 A. I don't remember asking that question  
14 specifically. I think I assumed that there was  
15 probably someone that -- I could only speculate  
16 at the moment how that contact was made  
17 initially and I don't know that I'm qualified to  
18 speculate about that.

19 Q. Did anyone ever tell you why they  
20 picked you to contact to be an expert witness  
21 for CTR?

22 A. Not to my recollection.

23 Q. Are you associated with CTR in any  
24 way?

25 A. I have received some grants from the

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1     Council for Tobacco Research and I'm currently a  
2     grantee of the Council for Tobacco Research.

3       Q.    Other than having received some grants  
4     from CTR and being currently a grantee from CTR,  
5     do you have any other association with CTR?

6       A.    No, I haven't. Through those  
7     interactions I've had the opportunity to meet  
8     several of the staff members at CTR, and there  
9     was one occasion when a symposia was held in New  
10    York for the Council of Tobacco Research where I  
11    was invited to attend shortly after I obtained  
12    my first grant from them, but I have had no  
13    direct interactions with them otherwise.

14       Q.    Have you ever attended Scientific  
15    Advisory Board meetings?

16       A.    No, I have not.

17       Q.    Do you know any of the members for the  
18    Scientific Advisory Board?

19       A.    Yes, I do.

20            MR. SHELY: Let me get an objection  
21        in.

22            During when? Present time or any  
23        time?

24            MR. HOAG: At any time.

25        A.    Yes. I have known and do know some

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1 members of the Scientific Advisory Board.

2 Q. Which Scientific Board members do you  
3 know or have you known?

4 A. I believe I have met Gordon Sato and I  
5 know Doctor Leo Abood who I believe is a current  
6 member of the Scientific Advisory Board.

7 Q. Could you spell Sato?

8 A. S-a-t-o.

9 Q. And Abood?

10 A. A-b-o-o-d.

11 Q. And is Sato still on the board?

12 A. To my recollection, I don't believe he  
13 is. I'm basing that on review of some of the  
14 documents pertaining to the operations of the  
15 CTR, including their annual reports.

16 Q. How did you come to know, is it Doctor  
17 Sato?

18 A. Doctor Gordon Sato, yes.

19 Q. Ph.D. or medical doctor?

20 A. A master and I believe he is a Ph.D.

21 Q. How did you come to know him?

22 A. I followed his work in the scientific  
23 literature. He's very prominent in the field of  
24 cell culture, tissue culture, growing of cells  
25 in vitro.

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1                   That is a basic model system that I  
2 use in my own research, so I followed very  
3 clearly the kinds of studies that Doctor Sato  
4 had done and I believe at one time when I went  
5 down to San Diego when I was in the San  
6 Francisco Bay area, I stopped by his lab to say  
7 hello and to introduce myself to him.

8                   Q.    When you say growing of cells in  
9 vitro, what do you mean?

10                  A.    Tissue culture or cell culture is a  
11 commonly used scientific technique where  
12 proliferating cells, whether they be tumor  
13 forming or not, can be maintained on plastic  
14 tissues in a nutrient medium in a controlled  
15 atmosphere of CO<sub>2</sub> and carbon dioxide and  
16 oxygenated air at body temperature, 37 degrees  
17 Celsius.

18                  Q.    And that's what in vitro means?

19                  A.    In viro, it's a Latin term, in vitro.  
20 In vitro is also a Latin term.

21                  In viro means in the body. In vitro  
22 means out of the body in lay terms.

23                  Q.    So Doctor Sato's specialty area is  
24 research related to cell culture in vitro, is  
25 that right?

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1           A.    That's right.

2           Q.    And you said this is an area of  
3           interest of yours or is it a major area of yours  
4           or both?

5           A.    Both. It's a major area of interest  
6           as well as a research tool. That technique of  
7           maintaining cells in culture is a research tool  
8           that I have used widely throughout my career.

9           Q.    So the reason you got to know Doctor  
10           Sato is your interest in that area, and you  
11           visited him in San Francisco one time and that's  
12           how you got to know him, correct?

13           A.    I visited him when he was in San  
14           Diego.

15           Q.    San Diego. I'm sorry. What year was  
16           that?

17           A.    It was sometime between 1976 and 1980.

18           Q.    Do you know whether or not he was a  
19           member of the Scientific Advisory Board for CTR  
20           at that time?

21           A.    To my recollection, he was not.

22           Q.    Do you know what year or years he was  
23           a member of the Scientific Advisory Board for  
24           CTR?

25           A.    Not with great precision, I don't

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1 remember that, but I believe he was on the board  
2 perhaps from 1990 through 1994.

3 Q. Did he ever encourage you to apply for  
4 grants from CTR?

5 A. No, at the time that I believe that we  
6 -- that I met him, he was not a member of the  
7 board.

8 Q. Was he a member of the board at any  
9 time when you received grants from CTR?

10 A. My grants from CTR went from 1984  
11 through 1990 and I just began one again in 1996,  
12 so if he was on the board from 1990 to 1994,  
13 there would have been only a very minor  
14 likelihood that he was on the board at the time  
15 that I received a grant from them.

16 Q. Okay. Tell me about, is it Doctor  
17 Abood, A-b-o-o-d?

18 A. That's right.

19 Q. And how did you come to know him?

20 A. Doctor Leo Abood, he is a, I believe  
21 he may be retired now, but he's a professor of  
22 pharmacology and the former chairman of  
23 pharmacology at the University of Rochester  
24 Medical School.

25 I have known him because our areas of

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1 research interests have overlapped. He has also  
2 been studying nicotine and its targets in the  
3 brain and body. He was one of the pioneers of  
4 cell approaches to identify those targets for  
5 nicotine in the brain using radio labeled  
6 nicotine analogues.

7 And so I have followed his work. I  
8 have had interactions with him at scientific  
9 meetings and other members of his staff and  
10 department.

11 I believe I also gave a research  
12 lecture at the University of Rochester a few  
13 years ago and probably have written in on my CV  
14 the precise month and year that I gave that  
15 talk.

16 So we've had a long professional  
17 relationship, as I do with many other scientists  
18 in that we run into each other at meetings. We  
19 might talk. I haven't talked with him on the  
20 phone extensively other than to arrange that one  
21 visit to Rochester.

22 Q. Did he ever encourage you to apply for  
23 CTR funding?

24 A. No. The issue never came up. I don't  
25 believe I've ever discussed with him matters

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1       regarding the Council for Tobacco Research.

2       Q.     What is a nicotine analogue?

3       A.     Nicotine analogue is the drug that has  
4       some similar structural similarities to nicotine  
5       and that might act in some ways in the same way  
6       that nicotine does on its targets in the brain  
7       and body.

8       Q.     What is the purpose of using an  
9       analogue rather than actual nicotine?

10      A.     There could be many. If you have a  
11     lot of time, I could explain a few things to you  
12     about my ideas about that.

13      Q.     Why don't you just tell me a couple of  
14     your ideas and we'll see how long that takes,  
15     and if it takes too long, we'll just move on to  
16     something else.

17      A.     All right. As it turns out, in  
18     research that Doctor Abood as well as I have  
19     contributed to, it's clear that there are many  
20     potential targets for nicotine in the brain and  
21     body. These are called receptors. They're  
22     called nicotine acetylcholine receptors because  
23     they interact with the natural chemical  
24     messenger made in the brain and body called  
25     acetylcholine, but they are a sub fraction of

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1 the receptors for acetylcholine in that there is  
2 one sub fraction of those acetylcholine  
3 receptors that can interact with nicotine.

4 So if you imagine that these are also  
5 targets for particular and maybe particular  
6 receptors, maybe we can just call them neck  
7 receptors. There seems to be many varieties of  
8 neck receptors and it's possible that some of  
9 them might be involved in mediating, for  
10 example, an enhancement of cognition that  
11 nicotine has been suggested to induce, perhaps  
12 not by acting at the targets for nicotine that  
13 would alter blood pressure, for example.

14 And so many scientists as well as  
15 probably over fifty drug companies around the  
16 world are interested in identifying and creating  
17 nicotine analogues that might have some effects,  
18 some of the -- some beneficial, if you will,  
19 loosely using that phrase, beneficial effects of  
20 nicotine while minimizing side effects.

21 Q. What are the side effects of nicotine?

22 A. Well, nicotine to my understanding can  
23 induce some nausea. It has a lot of, there are  
24 many targets for nicotine across the body.

25 Every movement you make is affected, is allowed

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1 because nicotine receptors are working. Every  
2 time you have an autonomic response -- in  
3 Florida, if you go out jogging in the summertime  
4 on the beach, in order to stay alive, if you try  
5 to do that exercise, your respiration rate, the  
6 rate at which you're breathing, your heart rate,  
7 your blood pressure will go up to help keep you  
8 alive as you're going along.

9 None of those responses would occur if  
10 the nicotine receptors involved in mediating  
11 those responses weren't active and probably  
12 compliments your ability to hear me if not see  
13 me or smell me because nicotine is involved in  
14 olfaction, nicotine receptors are involved in  
15 olfaction and audition.

16 Those sorts of sensory responses are  
17 mediated through nicotine receptors as are  
18 responses involved in emotion and cognition,  
19 higher order processing, if you will, in the  
20 brain.

21 So nicotine has the potential to  
22 affect many responses in biological systems, and  
23 if there is someone who's interested in  
24 targeting only a few of those, and we consider  
25 the other affects of nicotine to be side

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1 effects, whether they might be beneficial or  
2 undesirable, depends in certain situations, you  
3 can see how there would be a broad interest  
4 across the scientific community both in academia  
5 and in the private sector in nicotine analogues.

6 Q. You mentioned a lot of things about  
7 nicotine, and the way it sounds is like people  
8 have to have nicotine to think, see, hear or  
9 smell. Is that right?

10 A. Well ---

11 MR. SHELY: I object to the form.

12 Misstates his testimony.

13 BY MR. HOAG:

14 Q. Is that right or am I not  
15 understanding what it is you're saying?

16 A. Well, no, that's wrong. Actually, I  
17 don't know that people need nicotine. Again,  
18 nicotine, the receptors for nicotine also happen  
19 to be targets for a natural chemical substance  
20 called acetylcholine, so while I'm calling these  
21 things nicotine receptors as I mentioned before  
22 as a bit of a shortcut, in actuality there are  
23 receptors in the brain and body called  
24 acetylcholine.

25 If you had phrased the question do we

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1 need acetylcholine to function, I would  
2 certainly say yes.

3 Q. But you don't need nicotine to get  
4 acetylcholine, right?

5 A. No. You don't need nicotine to get  
6 acetylcholine. Acetylcholine is naturally made  
7 in the brain and body.

8 Q. In fact, I mean, choline is something  
9 you can buy in a health food store, isn't it?

10 A. Yeah, that's a bit of a diversion.

11 Choline is a substance that in fact  
12 you can buy at a drug store. The relationship  
13 between choline and acetylcholine is that  
14 choline is -- acetylcholine is a large molecular  
15 -- if you were here I would draw what the  
16 structure of the molecule is, but an element  
17 within the acetylcholine is choline, and  
18 acetylcholine is actually formed through an  
19 enzyme process, a catalyzed process where  
20 acetate is contributed from where acetate  
21 combines with choline to make acetylcholine.

22 Q. So are you saying that the choline you  
23 can buy in a health food store has anything at  
24 all to do with the formation of acetylcholine or  
25 it has nothing to do with it?

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1           A. I'm saying that yes, that choline as  
2        made in the body and perhaps as provided as a  
3        dietary supplement, could ultimately find its  
4        way into the molecular structure of  
5        acetylcholine molecules. That distinguishes it  
6        from nicotine. There is no metabolic  
7        interaction or chemical conversion involving a  
8        conversion from acetylcholine, from nicotine to  
9        acetylcholine.

10          Q. So is it a fair statement to say that  
11        at least some of your research looks at possible  
12        positive aspects of nicotine?

13          A. I'm not sure that I understand. Could  
14        you restate?

15          Q. I'll try.

16           Does some of your research look at  
17        potentially beneficial effects of nicotine?

18          A. We do research on nicotine receptors.  
19        Our studies are quite fundamental issues. As to  
20        whether the effects are positive or negative are  
21        not things we're concerned with but we're  
22        interested in more fundamental issues.

23          Q. Can you be more clear? I'm not sure I  
24        understand your answer.

25           You're not interested in whether or

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70001715

1 not there is any beneficial effects of  
2 nicotine? Is that what you're saying?

3 A. I'm saying that our research isn't --  
4 our research is quite basic research. We're  
5 interested in nicotine receptors and identifying  
6 them, determining where they are in the brain  
7 and body and what they do.

8 Issues regarding whether nicotine is  
9 beneficial or not is something that isn't of  
10 immediate concern in our research program.

11 Q. Is it of any concern?

12 A. Is it of any concern?

13 Q. Your research program?

14 A. Is what any concern?

15 Q. Whether or not nicotine is beneficial  
16 under any circumstances?

17 A. Well, I think as a research scientist,  
18 you know, ultimately we're interested in issues  
19 like that. We'd like to understand how  
20 receptors for nicotine or for acetylcholine act  
21 and how interactions with those receptors with  
22 nicotine, where the sites might be that are  
23 involved with the interaction with nicotine with  
24 those receptors.

25 Q. What about detrimental effects? Are

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1 you interested in finding out whether nicotine  
2 has any detrimental effects on people?

3 A. Again, our research program is  
4 concerned with more basic and fundamental  
5 issues. I'm not -- whether it has positive or  
6 detrimental effects isn't of immediate concern  
7 in our research program.

8 Q. Okay. I guess I'm really getting  
9 confused.

10 You're telling me that whether it has  
11 positive effects or detrimental effects is not  
12 of immediate concern in the research that you  
13 do, is that correct?

14 A. That's right.

15 Q. Is it of any concern at all?

16 MR. SHELY: Asked and answered.

17 MR. HOAG: Are you whispering?

18 MR. SHELY: No. I told -- I'm telling  
19 you that he's already answered it and he  
20 can answer.

21 MR. HOAG: I heard whispering and if  
22 you're whispering to the witness, that's  
23 inappropriate, of course.

24 MR. SHELY: I'm telling him, as I've  
25 told you, that he's already answered the

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1 question.

2 MR. HOAG: Well, it's inappropriate to  
3 whisper to him that he's already answered  
4 the question so as not to respond now.

5 MR. SHELY: John, I didn't hear you.

6 MR. HOAG: I said you know that's  
7 inappropriate.

8 MR. SHELY: I'm not doing anything  
9 inappropriate.

10 MR. HOAG: You were whispering to the  
11 witness and if I was there right now and  
12 could see you do it, you wouldn't do it in  
13 front of me, so don't do it when I'm not  
14 there to see you.

15 MR. SHELY: Don't make any accusations  
16 that you can't back up.

17 MR. HOAG: I can back it up because  
18 you told me you did it.

19 MR. SHELY: No, I told you that I told  
20 him he already answered the question.

21 MR. HOAG: And you were whispering to  
22 the witness.

23 MR. SHELY: I'm not whispering to the  
24 witness.

25 MR. HOAG: Don't play games, John.

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1                   MR. SHELY: Well, that's what I'm  
2                   trying to avoid.

3                   You've already answered that question.

4                   MR. HOAG: So you're telling him that  
5                   he shouldn't answer that question right  
6                   now, is that right? Is that also what you  
7                   whispered to him?

8                   MR. SHELY: John, we can go to court  
9                   if you want. If you want to take the  
10                  deposition, take the deposition. I'm not  
11                  whispering to the witness.

12                  MR. HOAG: That depends on how many  
13                  more times you're telling him to say ---

14                  MR. SHELY: Are you going to ask a  
15                  question or are you going to argue? Let's  
16                  go.

17                  MR. HOAG: Would you read back my last  
18                  question before the whispering and stuff  
19                  took place?

20                  (Thereupon, the question referred to  
21                  was read by the reporter as recorded.)

22                  MR. SHELY: Same objection.

23                  BY MR. HOAG:

24                  Q. And by that I mean the detrimental or  
25                  the benefits of nicotine, are there any concerns

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70001719

1 at all as regards the research that you do?

2 MR. SHELY: Same objection.

3 A. As a research scientist, my primary  
4 focus is on fundamental issues regarding  
5 nicotine and its targets.

6 Obviously and particularly in this day  
7 and age, and particularly when research  
8 scientists as well as drug companies are  
9 interested in looking for effects of nicotine  
10 that could be beneficial, I think we'd all agree  
11 that nicotine can relieve pain, it can relieve  
12 anxiety, it can improve memory and cognition.

13 Those are things that if nicotine has  
14 effects to enhance those functions or any  
15 analogues like that, we all would be interested  
16 in, so in the long range and with a view as a  
17 biomedical scientist towards developing ideas or  
18 drugs or tools or pharmaceuticals to help treat  
19 maladies and improve the quality of life, of  
20 course I'm interested in that in the long term,  
21 but it isn't an immediate concern of mine and  
22 I'm not a behavioral psychologist.

23 I think a behavioral physiological  
24 psychologist would be the kind of people --  
25 would be the kinds of people who would be able

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1 to address that question from a stand of -- from  
2 a greater expertise than I would.

3 Q. Have you done any research about the  
4 addictiveness of nicotine?

5 A. I'm not sure what you mean by  
6 addiction. How do you define addiction or  
7 addictiveness?

8 Q. You are aware that nicotine is  
9 addictive, correct?

10 A. No, I'm not certain that I would agree  
11 with that opinion. It depends on the definition  
12 that's used of addiction.

13 Q. Well, let me just ask you: Is  
14 nicotine addictive?

15 A. Again, it depends on what the  
16 definition of addiction means. What's the  
17 definition that's used?

18 Q. Does nicotine enhance memory?

19 A. It seems that there are some studies  
20 that suggest in laboratory animals as well as  
21 patients, including demented patients such as  
22 Alzheimer's patients, that nicotine does enhance  
23 their cognitive capacity, yes.

24 Q. Now you didn't need a definition of  
25 memory to answer that question, so let me just

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1 try again.

2 Is nicotine addictive?

3 A. I would again say, though, it depends  
4 on your definition of addictive. You're right.  
5 Perhaps I should have asked you to define memory  
6 to be more clear.

7 I didn't say that it doesn't have  
8 cognitive capacity. This is a complex issue as  
9 well and perhaps I jumped the gun on the issue  
10 regarding memory. There are many, many  
11 different ways to measure memory or cognitive  
12 capacity.

13 There's a lot of scientific debate of  
14 which are the best ways if there are any because  
15 memory and cognition are complex phenomena.

16 But I believe, whether it's in lay  
17 terms or scientific terms, cognitive capacity,  
18 cognitive includes memory.

19 Q. So is nicotine addictive?

20 MR. SHELY: Asked and answered.

21 MR. HOAG: It hasn't been answered  
22 yet.

23 MR. SHELY: Well, he can't answer the  
24 question as you phrased it, John, so you'll  
25 have to rephrase it.

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70001722

1 BY MR. HOAG:

2 Q. Why did you not have the problem with  
3 answering my question about memory but yet you  
4 have the problem answering it about addiction?

5 A. Because there is a lot of controversy  
6 as well about -- probably less controversy about  
7 what memory means in terms of what the formal  
8 scientific rigorous definition is and what the  
9 lay understanding of it is.

10 I believe that the lay understanding  
11 of the term addiction and the scientific  
12 rigorous definition of it are somewhat different  
13 and there's some controversy about that.  
14 Probably more about it than, in general terms,  
15 the issue of memory.

16 Q. Is there less controversy that  
17 nicotine enhances memory than there is that  
18 nicotine is addictive?

19 A. No, I think there's less controversy  
20 about what memory means.

21 Q. So let me ask my question again:  
22 Is there less controversy that  
23 nicotine is addictive as compared to less  
24 controversy that nicotine enhances memory?  
25 Which of those two is less controversial?

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70001723

1           A.    How do you define addiction?

2           Q.    Do you have a definition for  
3           addiction?

4           A.    Yes, I believe I do.

5                   The rigorous scientific definition of  
6           addiction has six complements to it.

7                   One, is that an addictive drug is  
8           intoxicating. Another is that a user of an  
9           addictive drug is driven compulsively to seek  
10           and use the drug. The drug is, if it's  
11           addictive is -- there should be development of  
12           dependence which there becomes a requirement for  
13           the user to have the drug on board.

14                   There are also withdrawal effects. If  
15           the user becomes abstinent after using an  
16           addictive substance, tolerance to an addictive  
17           substance develops in that the user needs more  
18           and more of the substance to achieve a similar  
19           biologic response.

20                   And another component in the very  
21           rigorous definition of an addictive substance is  
22           that it's a substance the use of which  
23           immediately endangers the user and/or other  
24           members of society.

25                   Q.    Okay. So by your definition, to be

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1      addictive it has to immediately endanger the  
2      user, is that right?

3      A.     Yes.

4      Q.     Seems like you've come up with a  
5      tailor made way so as to avoid calling nicotine  
6      addictive, haven't you?

7                    MR. SHELY: I object to the form.

8                    It's argumentative.

9                    BY MR. HOAG:

10                  Q.    Haven't you?

11                  A.    No, I haven't. In fact, that is the  
12                  definition of addiction in a medical and nursing  
13                  dictionary.

14                  Q.    And what particular medical and  
15                  nursing dictionary are you referring to?

16                  A.    I believe it's one that I have at  
17                  home. I believe it's called -- I believe one of  
18                  the authors is Meane, M-e-a-n-e.

19                  Q.    Have you seen any textbook definitions  
20                  of addiction that are different from that  
21                  definition?

22                  A.    Well, there is some controversy about  
23                  that. This is, you know, it's typical in  
24                  science, particularly in behavioral science, to  
25                  have an evolution of thoughts, an evolution of

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1 definitions over the years and often the lay  
2 public, their understanding of the term like  
3 addiction is quite a bit different than even the  
4 definitions of the leaders in the field are  
5 discussing and have a controversy about, so  
6 there is quite a bit of evolution in those kinds  
7 of definitions.

8 Now I have seen in more lay  
9 publications such as dictionaries, very much  
10 watered down definitions of addiction that don't  
11 have those six elements.

12 Q. Do you mean they don't have all of  
13 them or any of them?

14 A. In some cases, they don't have any of  
15 them, or maybe perhaps just one or two.

16 Q. So based on the definition that you  
17 prefer of addiction, is nicotine addictive?

18 A. I don't believe that it is, partly  
19 because I don't believe that it's an  
20 intoxicating substance and unlike if I were  
21 driving on the freeway with someone who happened  
22 to be smoking, I don't believe I would be in as  
23 much danger as if I was with someone who was  
24 intoxicated, with someone who was using a  
25 narcotic or some other substance.

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70001726

1           Q.    So, therefore, it's not addictive, is  
2           that right?

3           A.    So using the definition, the rigorous  
4           scientific definition with the six elements that  
5           I laid out for you, it's my opinion that  
6           nicotine is not addictive, according to that  
7           definition.

8           Q.    Have you been asked that question  
9           before?

10          A.    In a few forums, I have, yes.

11          Q.    What were the forums that you were  
12          asked that question in?

13          A.    Well, they include family gatherings,  
14          for example. I just had an opportunity to have  
15          a discussion about nicotine and use with some of  
16          my relatives who happen to be habitual users of  
17          tobacco products.

18          Q.    And you explained to them that it's  
19          not addictive, is that right?

20          A.    No, we had -- knowing that I work on  
21          nicotine and nicotine receptors, they were  
22          interested in my views on it and so we had  
23          family discussions about the properties of  
24          tobacco, the issues of nicotine's role and the  
25          effects of tobacco and tobacco-related disease.

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70001727

1 Q. So did you tell them that they should  
2 keep smoking because nicotine make them smarter?

3 MR. SHELY: Objection to the form.  
4 Argumentative. Why don't you just ask a  
5 real question?

6 MR. HOAG: That's a real question.

7 BY MR. HOAG:

8 Q. Did you tell them they should keep  
9 smoking because nicotine makes them smarter?

10 MR. SHELY: That's an argumentative  
11 question.

12 BY MR. HOAG:

13 Q. You can answer.

14 A. No. I didn't at any time make such a  
15 statement.

16 Q. Did you advise them that it was a good  
17 idea to keep smoking?

18 MR. SHELY: Same objection.

19 A. No, I didn't advise any of my  
20 relatives to keep smoking.

21 Q. Did you advise them that it was a  
22 habit that will kill them if they keep smoking?

23 MR. SHELY: Same objection.

24 A. No, I don't -- I didn't make that kind  
25 of a statement to them, no.

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1 Q. Did you advise them that it would be  
2 in their best interest to quit smoking?

3 A. I believe that our discussion ranged  
4 more about what the effects of nicotine are. I  
5 tried to get them to understand what it is that  
6 -- and try to understand from them what it's  
7 about smoking that they enjoyed or disliked.

8 Q.

9 ***REDACTED***

10  
11 A.

12 ***REDACTED***

13 Q.  
14  
15 A.

16  
17 Q. ***REDACTED***

18 A.  
19  
20 A.

21  
22 Q.  
23 A. ***REDACTED***

24 Q.  
25 A.

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1  
2  
3  
4  
5  
6  
7***REDACTED***

8 A.

***REDACTED***

9 Q.

10 A.

11 Q.

12 A.

13 Q.

***REDACTED***

14 A.

15 Q. Have you ever smoked cigarettes?

16 A. Yes, I have had a few cigarettes in my  
17 life.18 Q. Have you ever smoked cigarettes  
19 regularly?

20 A. No, I have not.

21 Q. What's the most cigarettes you ever  
22 smoked in a week?

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1           A.    Oh, probably no more than two or  
2    three.

3           Q.    Why do you not smoke cigarettes?

4           A.    It was something that didn't interest  
5    me. I didn't really see any benefit to it. I  
6    was interested in seeing what it did because I  
7    had a father and some friends who smoked and --  
8    but it just, it's something that I never, even  
9    though I'm not, if you will, a virgin with  
10   regard to tobacco exposure, it's something I  
11   never took up seriously at all.

12          Q.    How old were you when you first tried  
13    a cigarette?

14          A.    I was probably 18 or 19 years old.

15          Q.    Does cigarette smoking cause lung  
16    cancer?

17          A.    I don't believe that there is evidence  
18    to cause a causal relationship there, but then  
19    again, the issue of causal relationship, that's  
20    a definition. We should be precise about what we  
21   mean.

22          Q.    Does cigarette smoking cause any  
23    disease?

24          MR. SHELY: John, I'm going to let him  
25   answer this series of questions but I want

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1 to make sure you understand that this is  
2 not the designated area of Doctor Lukas's  
3 expertise and we don't hold him out as an  
4 expert on these issues.

5 MR. HOAG: Are you holding him out as  
6 an expert on addiction?

7 MR. SHELY: I'm holding him out as an  
8 expert on the subjects that were listed in  
9 the letter.

10 MR. HOAG: That doesn't include  
11 addiction. You didn't mention that when I  
12 was asking him the addiction questions,  
13 that's all.

14 MR. SHELY: I'm just telling you,  
15 John, what he has been proffered for and  
16 thought you might want to ask him some  
17 questions about that, but it's your  
18 deposition.

19 MR. HOAG: That's true.

20 BY MR. HOAG:

21 Q. Does cigarette smoking cause any  
22 disease?

23 MR. SHELY: Same objection.

24 A. My expertise in those kinds of  
25 questions is quite limited. I don't know that I

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1 have more expertise along those lines than any  
2 other scientist or well-educated lay person  
3 because it's not the area that I investigate.

4           But, from a scientific perspective, I  
5 believe I'm an expert in science, that I think  
6 that the issue, on a very, very important issue  
7 is causal relationships and just as the  
8 definition of addiction is something that is  
9 subject to some controversy and sometimes that  
10 question is often for purposes that aren't  
11 necessarily significant, so the ability to  
12 demonstrate causal relationship of or the  
13 definition of it or the implications of a causal  
14 relationship, sometimes there is a loosening of  
15 that term, but in the strictest scientific  
16 sense, I don't believe that there is any  
17 evidence that smoking causes -- is the sole  
18 cause, without smoking you would never get a  
19 disease.

20           Q. Is it more likely than not that at  
21 least one person in the United States has died  
22 of lung cancer as a result of smoking  
23 cigarettes?

24           MR. SHELY: Objection. Again, that's  
25 not his expertise.

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1                   MR. HOAG: You can answer.

2                   A. I don't know that I'm a physician to  
3 make that sort of appraisal.

4                   Q. Well, as a person that's a scientist  
5 and has above average knowledge about nicotine  
6 and other scientific areas, is it more likely  
7 than not that at least one human being in the  
8 United States has ever died from lung cancer as  
9 a result of smoking cigarettes?

10                  MR. SHELY: Same objection. Lack of  
11 foundation.

12                  A. It's a highly conjectural statement or  
13 question and I don't know that we have the tools  
14 or resources to make such a determination.

15                  Q. So you don't feel qualified, based on  
16 all of your knowledge, to express an opinion as  
17 to whether or not it's more likely than not that  
18 at least one person has died in the United  
19 States from lung cancer as a result of smoking  
20 cigarettes, is that correct?

21                  A. I'm not sure that I follow. Could you  
22 repeat, please?

23                  MR. HOAG: Will you read the question,  
24 please?

25                  (Thereupon, the question referred to

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1 was read by the reporter as recorded.)

2 A. The term as a result of, if that  
3 implies a singular causal relationship, then I  
4 don't think that the scientific information -- I  
5 don't think we have the tools to make such an  
6 assessment.

7 Q. Have you ever known anyone who smoked  
8 cigarettes who wanted to quit but just wasn't  
9 able to?

10 A. I don't think I have, including some  
11 of my relatives. In discussions with them, they  
12 have been able to stop. So I don't know that I  
13 could really say that I've known someone who  
14 truly has been unable to stop.

15 Q.

16

17 A.

**REDACTED**

18 Q.

19 A.

20

21

22 Q.

**REDACTED**

23

24 A.

25

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1 Q.

2

3 MR. SHELY:

4

5 A.

**REDACTED**

6 Q.

7

8 A.

9

10 Q

**REDACTED**

11

12

13

14

15

16 A.

**REDACTED**

17 Q.

18

19 A.

20

**REDACTED**

21

22

23

24

25

Q. When you say probably not good for

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1

2 MR. SHELY:

3

4 BY MR. HOAG: **REDACTED**

5

6

7

8

9 A.

10

11

12

13 **REDACTED**

14

15

16 A.

17

18 A.

19

20 Q.

21 **REDACTED**

22

23 Q.

24

25 Q.

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1           A. Because I think that, first of all,  
2 it's not a particularly appealing habit. And I  
3 think there are -- there is evidence suggesting  
4 that tobacco usage is a risk factor and be clear  
5 about the fact that having the opinion something  
6 that is a risk factor does not imply or  
7 demonstrate causality that it is a risk factor  
8 for some diseases.

9           Q. **REDACTED**

10

11           MR. SHELY: Objection to the form.

12 BY MR. HOAG:

13           Q.

14           A. **REDACTED**

15

16           Q. The nicotine in the tobacco has  
17 physiological effects on the brain, right?

18           A. Yes, that's my professional as well as  
19 personal opinion.

20           Q. It gets to the brain in ten seconds or  
21 less once you puff on it, right?

22           A. That's what is reported in the  
23 literature, yes.

24           Q. That's really a fast physiological  
25 reaction, right?

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1           A. That's right.

2           Q. And it affects the Dopamine level,  
3 correct?

4           A. I believe that that's been  
5 demonstrated in some animal models, yes.

6           Q. And cocaine affects the Dopamine level  
7 too, correct?

8           A. I believe that that has been  
9 demonstrated as well in some animal models.

10          Q. And cocaine gets to the brain very  
11 rapidly too, correct?

12          A. Yes.

13          Q. Do you know whether more people die  
14 from taking cocaine as compared to smoking  
15 cigarettes?

16          A. Well, again, I don't know that's an  
17 area where I'm an expert and we have to be  
18 careful there because, again, I'm not sure what  
19 you imply by causing death or not causing  
20 death.

21          Q. Have you ever known anyone who  
22 contracted lung cancer who smoked, who continued  
23 to smoke after contracting the lung cancer after  
24 they realized now they had lung cancer?

25          A. No, I don't know anyone who has had

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1 lung cancer and continued to smoke.

2 Q. No, if there are such people, that  
3 would be a very strong indication that cigarette  
4 smoking is addictive, wouldn't it?

5 MR. SHELY: Objection to the form.

6 BY MR. HOAG:

7 Q. Wouldn't it?

8 A. I disagree completely. I think that's  
9 a very broad sweeping statement that you made.

10 Q. Do you know whether or not there are  
11 people who have a hole in their throat as a  
12 result of operations and will smoke through the  
13 hole in their throat? Are you aware of that?

14 A. Well, previously you've been asking me  
15 if I knew anyone and now you're asking me if  
16 I've been aware, is that correct?

17 Q. Is it correct that you heard the  
18 question correctly? Yes, you did hear the  
19 question correctly.

20 A. Actually last night I became aware of  
21 at least that sort of phenomena.

22 I happened to be watching I believe  
23 something on the public broadcast, maybe a  
24 McNeil Lehrer report where they were talking  
25 about the tobacco campaigns in Oregon and they

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1 showed a clip from a commercial run in the  
2 tobacco campaign in California that showed a  
3 woman with a tracheostomy tube who is puffing on  
4 a cigarette through that, so that's the first  
5 time that I believe I've ever seen that.

6 I believe in the Engle deposition  
7 there may be some remarks about someone who was  
8 a lung cancer patient and continued to smoke, so  
9 I'm aware of that, but I don't personally know  
10 anyone who is a lung cancer patient who smoked.

11 Q. Do you know the percentage of people  
12 who smoke who contract lung cancer who continue  
13 to smoke?

14 A. No, I'm not, I'm not aware of that  
15 information.

16 I know where I could go and look it  
17 up, but it's not at the tip of my tongue.

18 Q. Do you think that has anything to do  
19 at all with whether or not cigarette smoking is  
20 addictive?

21 MR. SHELY: Same objection as stated  
22 before in the deposition, and also broad.

23 BY MR. HOAG:

24 Q. You can answer.

25 A. Could you restate the question?

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1           Q. Do you think that has anything to do  
2 with whether or not cigarette smoking is  
3 addictive?

4           A. If what has anything to do?

5           Q. The percentage of people who continue  
6 to smoke after being diagnosed with lung cancer?

7           MR. SHELY: Note my objection to lack  
8 of foundation because he does not have the  
9 information for the basis of the question.

10          BY MS. HOAG:

11          Q. You can answer.

12          A. Again, I don't know what the  
13 percentage is of individuals who have lung  
14 cancer who continue to smoke.

15          Q. Well, would there be ---

16          A. Then we come to the definition of  
17 addiction.

18          Q. Would there be any percentage that  
19 would have any impact on your opinion on whether  
20 or not cigarette smoking is addictive?

21           In other words, if you found out that  
22 40 percent of all the people who get diagnosed  
23 with lung cancer continue to smoke cigarettes  
24 after the diagnosis, would that have any impact  
25 on your opinion of whether or not cigarette

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1 smoking is addictive.

2 MR. SHELY: Objection. It's an  
3 incomplete hypothetical and he doesn't have  
4 information on which to base an answer.

5 BY MR. HOAG:

6 Q. You can answer.

7 A. Well, if there was a scientific or  
8 clinical medical demonstration of a percentage,  
9 if there was some data about it, I don't know --  
10 I don't see how anyone can draw any --  
11 extrapolate from that information anything about  
12 the addictiveness of nicotine or addictiveness  
13 of smoking.

14 MR. SHELY: John?

15 MR. HOAG: Yes.

16 MR. SHELY: Can we take five for a  
17 men's room break here?

18 MR. HOAG: Sure.

19 MR. SHELY: Do you want to keep the  
20 line open here?

21 MR. HOAG: That's a good idea because  
22 if we go and shut off the line, we're  
23 totally disconnected and the number won't  
24 work any more.

25 MR. SHELY: Let's keep it open and

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1           we'll be back after freshening up and  
2           getting a drink.

3 (Short recess).

4 | BY MR. HOAG:

5 Q. I want to go back to the concept of a  
6 nicotine analogue and I'm going to ask you some  
7 questions, and if I'm misunderstanding or you  
8 need to clarify what I'm asking, please do that,  
9 because this is an area that obviously you have  
10 the expertise in.

11 Is it possible to develop a nicotine  
12 analogue for specific things like, for example,  
13 if you found that nicotine did have some memory  
14 enhancement qualities, is it possible to develop  
15 an analogue for that specific purpose?

16           A.    I think that is one of the hopes of  
17   properly investigating one of the fifty  
18   pharmaceutical companies as well as a number of  
19   individuals in academia.

20 Q. So the hope is to find out, to find  
21 things that may possibly be beneficial about  
22 nicotine and develop an analogue that doesn't  
23 have the detrimental effects of nicotine, is  
24 that fair?

25 A. I mean, there are a couple of ways to

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1 do that, yes, to identify an analogue of what  
2 has beneficial effects of nicotine and doesn't  
3 have side effects.

4 I don't know that I would call them  
5 detrimental because maybe someone doesn't need  
6 to have an antianxiety on board while they're  
7 trying to improve their cognition or attention.

8 But side effects, yes, that is the  
9 goal, whether it's achievable or not to develop  
10 a nicotine analogue that would have effects on  
11 one modality but not others, is something that  
12 time will tell.

13 Q. The research that you said that was  
14 funded through CTR, you said that began in 1990,  
15 is that correct?

16 A. I've had three periods of grant  
17 funding from the Council for Tobacco Research;  
18 from 1984 to 1987, from 1987 to 1990, and  
19 currently from 1996 through 1999, and I believe  
20 all of that information is available in my  
21 curriculum vitae.

22 Q. In 1984 through 1987 when you first  
23 had something funded by CTR, what project or  
24 projects did that involve?

25 A. The -- I believe the project was to

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1 investigate the effects of acute and chronic  
2 nicotine exposure and numbers and function of  
3 different targets or receptors for nicotine and  
4 acetylcholine.

5 Q. So acetylcholine is the receptor that  
6 would relate to memory, is that correct?

7 A. So acetylcholine is the chemical  
8 messenger that targets some of the same  
9 receptors that nicotine does. And the receptor  
10 and its interaction with acetylcholine has been  
11 implicated in lots of things, including memory.

12 Q. What things other than memory?

13 A. Well, we already discussed about how  
14 every movement you make is made because those  
15 receptors are working. Every autonomic response  
16 in the brain, our understanding is moving along  
17 but still is quite immature about the effects of  
18 acetylcholine and its receptors, but there  
19 clearly are implications that it is involved in  
20 modulating the chemical soup in which your brain  
21 is bathed, thereby affecting a variety of brain  
22 and body functions.

23 Q. Okay, and those would include memory  
24 and just name the other things that you can  
25 think of that it would include.

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1                   MR. SHELY: When we say it would  
2                    include, I guess I'm not sure what you're  
3                    talking about. Acetylcholine would include  
4                    for the receptors?

5                   MR. HOAG: Who is asking this?

6                   MR. SHELY: Bob Shely.

7                   MR. HOAG: It's based on what his  
8                    prior answer was.

9                   MR. SHELY: Well, I'm going to  
10                   object. The question is indefinite,  
11                   ambiguous.

12                   A. But I believe I can answer that  
13                   without a problem.

14                   Q. Go ahead.

15                   A. Acetylcholine and its interactions  
16                   with its receptors of the nicotinic variety, of  
17                   the nicotine variety, have been implicated in  
18                   memory, in attention, in cognition and again  
19                   these terms are all somewhat loose, in anxiety,  
20                   in depression, as well as in analgesia, the  
21                   sensation of pain and the variety of other  
22                   senses from vision to olfaction to audition.

23                   Q. So let's take, like, for example,  
24                   anxiety, does it heighten anxiety? What does it  
25                   do to anxiety, if anything?

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1                   MR. SHELY: Same objection to form but  
2 go ahead, you can answer.

3       A.    A lot of these issues, I don't know if  
4    this is so much of a scientific forum as it is a  
5    local forum but a lot of -- we don't know a lot  
6    about all these effects.   The jury is still out  
7    and will be out for some time, understanding the  
8    brain is really a very difficult problem, but if  
9    one can extrapolate from studies looking at the  
10    effects of nicotine itself, nicotine as a  
11    pharmacological proof.   If you look at the  
12    effects of nicotine on its receptors, you can  
13    glean some information about acetylcholine and  
14    its receptors, and it's suggested from animal as  
15    well as human studies, for example, that  
16    nicotine does relieve anxiety.

17 Q. How about depression?

18           A.    The -- my understanding of the  
19           literature is that there are some studies in,  
20           some studies mostly with withdrawal studies in  
21           humans.  It's a little hard to measure  
22           depression in an animal and it's a little hard  
23           to measure anxiety in animals as well, so  
24           there's a lot of controversy about that, but  
25           looking at reports from individuals as to

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1 perhaps why they began to smoke, or some of the  
2 effects that they suggest that they experienced  
3 as they withdraw from smoking, or from nicotine,  
4 suggested nicotine may have some effects to  
5 counteract depression and removal from nicotine,  
6 withdrawal of nicotine might enhance or heighten  
7 depression, perhaps transiently.

8 Q. What about vision?

9 A. Well, with vision, things are even  
10 less certain there. The extrapolation comes  
11 from studies of the receptors for nicotine and  
12 acetylcholine.

13 It's clear that they are widely  
14 dispersed through the retina and through parts  
15 of the brain, such as the lateral geniculate  
16 nucleus and the visual cortex, but that just  
17 simply implies that nicotine and acetylcholine  
18 receptors played some role in those functions.

19 I don't believe that there is any  
20 evidence more direct than that.

21 Q. Well, this evidence that you've  
22 described such that it is related to vision, is  
23 it that it enhances vision or decreases vision  
24 or has what impact on vision, if anything?

25 A. Those kind of experiments haven't

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1       really been conducted. No one can say  
2       definitely what the effects are. It's just  
3       clear that receptors for nicotine are in  
4       position. They are in those structures that I  
5       just mentioned and they are in the position to  
6       affect vision, but we don't understand at all  
7       what they do or what they might possibly do.

8       Q.     And is the same thing basically true  
9       for smell as is true for vision as far as you're  
10      answer is concerned right now?

11      A.     Yes, receptors for nicotine have been  
12      identified in the olfactory epithelium and in  
13      the olfactory processes sensation of smell, but  
14      roles that nicotine receptors play in that  
15      sensation are not at all clearly delineated.

16      Q.     Can you tell me one more time the name  
17      of the project that began in '84 and ended in  
18      '87?

19      A.     I haven't committed the name of the  
20      project to memory.

21      Q.     You said effects of acute and chronic  
22      and I didn't get the rest. If you can point it  
23      out on your CV, I'll just read it from there.

24      MR. SHELY: He's looking at his CV for  
25      the record to identify the page.

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1           A. According to this, actually I was  
2           mistaken. It wasn't a grant that started in  
3           1984. It was a grant that started in 1985. And  
4           the title of the grant ---

5           MR. SHELY: For the record, would you  
6           state where you're looking so he can follow  
7           it with you?

8           A. Okay. I'm looking at, it's not a  
9           numbered page. I'm looking at a word grants and  
10           contracts in my CV. It's on page ii under a  
11           word grants and contracts at the very top of  
12           that page, Council for Tobacco Research grant  
13           number 1694, the title of Acetylcholine  
14           Receptors.

15           Q. Okay. I think I see it here. It says  
16           from January of 1985 to December of 1987, and  
17           the Council for Tobacco Research funded \$97,640  
18           for this project?

19           A. That's right, in total direct costs.  
20           Those are costs that I actually got to use for  
21           laboratory operations.

22           Q. Was there any other monies that they  
23           awarded that were outside of that total direct  
24           costs?

25           A. I believe the Council for Tobacco

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1 Research also provides 15 percent of total  
2 direct costs and indirect costs that go to cover  
3 administrative expenses, such as maintenance of  
4 the grant office, bookkeeping, electricity, et  
5 cetera.

6 Q. So it's \$97,640, plus 15 percent of  
7 that?

8 A. That's the maximum, 15 percent, I  
9 don't recall precisely whether we asked for all  
10 of that 15 percent that we were allowed to ask  
11 for.

12 Q. So the title of your research was  
13 Influence of Nicotine on Neuronal Expression of  
14 Acetylcholine Receptors?

15 A. That is correct.

16 Q. And what, if anything, did you publish  
17 as a result of that research?

18 A. Well, we'd have to turn to, I don't  
19 know exactly. I would have to take a look at  
20 each of my publications to see. I try to be very  
21 careful about citing who -- what resources were  
22 used for a particular publication. I will cite  
23 a source of those resources but I believe that  
24 many of the articles and abstracts that we  
25 published from 1986 or so, through 1988 --

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1 because there's usually a bit of a lag before  
2 the papers actually get published at the time of  
3 the money to fund that research is available and  
4 the work begins, that in many of the papers  
5 published from 1986 through '88 or even beyond,  
6 with support from that research project.

7 Another complicating issue is that  
8 that project was renewed. You look farther down  
9 on that page and you'll see the fifth entry is  
10 for a renewal on an extension of that grant for  
11 another three years. So there are probably  
12 articles published well into the nineties that  
13 the Council for Tobacco Research supports.

14 Q. Under awarded grants or contracts,  
15 that's number four, National Institutes of  
16 Health -- no, no, that doesn't say that. That  
17 would be under ---

18 A. The next one down.

19 Q. Council for Tobacco Research 1/88 to  
20 12/90?

21 A. That's correct.

22 Q. And that's another \$190,460 in direct  
23 costs, correct?

24 A. Correct.

25 Q. And that is the same project continued

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1 all the way through December of 1990?

2 A. That's right.

3 Q. So just looking at your abstracts  
4 here, are you able to identify which of those  
5 pieces of research were done as a result of  
6 funding from CTR?

7 A. I don't believe that I can do that  
8 with certainty. I would have to, first of all  
9 for the abstracts, these are sometimes oral  
10 presentations with no written documentation  
11 necessary. There's some cases where the  
12 abstracts, basically a summary, is published and  
13 proceedings of the meeting, for example. I  
14 don't know that in every case the abstracts  
15 would cite support, but it certainly would be in  
16 the publications, the section preceding the  
17 abstracts section.

18 In the publications, I would have to  
19 look at those. I haven't committed to memory  
20 which ones were supported or where we cited CTR  
21 support but probably, again, many of those from  
22 1986 through the early part of the nineties are  
23 likely to have cited support for the Council for  
24 Tobacco Research.

25 Q. Now, did any of the research you did

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1 as a result of CTR funding assist the scientific  
2 community in discovering what diseases,  
3 cigarette smoking does or does not cause?

4 A. No, that's not a focus of my research  
5 at all. We have not investigated any issues  
6 related to a disease in my laboratory.

7 Q. And certainly nothing is related to  
8 disease causation, correct?

9 A. No, we have not studied disease  
10 causation in my laboratory.

11 Q. Was tobacco smoke any part of your  
12 research?

13 A. No. The large majority of our  
14 research, particularly over the last ten or 15  
15 years, has concerned cell culture techniques.  
16 We're not working with whole animals and we have  
17 not worked with smoke at all.

18 Q. Is it possible to do research related  
19 to disease causation without working with whole  
20 animals?

21 A. I think so. It's -- there, for  
22 example, there's someone who is studying in cell  
23 culture, some genes, mutations of which cause  
24 certain forms of cancer, and to understand what  
25 the ramifications to the cell are of having

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1       those mutated genes, that certainly could be  
2       done in cell culture.

3                   So I think yes, the short answer is  
4       yes, it is possible with in vitro studies to  
5       investigate phenomena involved in disease.

6       Q.    It's just not something you've ever  
7       done, correct?

8       A.    No, it isn't. There may have been  
9       some studies that we were contemplating from  
10      time to time looking at growth factor treatments  
11      or drugs that might cause tumor cells to stop  
12      dividing, but I don't believe that we've ever  
13      published those results in a framework where  
14      we're trying to understand the disease. It's  
15      more as a research tool that we have been using  
16      to hatch it, if we can somehow stop a tumor cell  
17      from dividing, it is likely that that cell will  
18      then differentiate and take on mature  
19      characteristics of a normal kind of cell that  
20      has now entered into this immortalized state.

21                   So we've been doing that with neuronal  
22      cell tumors, trying to get those cells to stop  
23      dividing so that they'll adopt some more of the  
24      characteristics of a mature neuron.

25       Q.    But you have not ever done any

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1 research concerning diseases or disease  
2 causation, correct?

3 A. That has not been the intent or focus  
4 of our research, no.

5 Q. And you haven't done any research  
6 about disease prevention either, correct?

7 A. I would have to think about that a  
8 little bit. There were some studies where we  
9 were --- they aren't immediately related to  
10 that. It's a very broad question. It's a very  
11 difficult one to answer because one never knows,  
12 for example, in a scientific research where  
13 information might be gleaned that would be  
14 relevant to disease processes or prevention and  
15 it's always in the back of our mind that --  
16 particularly working in a research institute  
17 that's associated with a hospital, always in the  
18 back of our mind is, "Well, what can we do to  
19 make the quality of life of these patients or  
20 other people in society better?"

21 But as to whether a primary focus of  
22 our research has been concerning disease and  
23 disease processes causation or prevention, no,  
24 that has not been the prime motive behind our  
25 research.

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1           Q.    Can you point me to any research  
2    you've done that discusses that at all, whether  
3    it's prime, secondary or just trivially  
4    mentioned?

5           MR. SHELY:   What was the last part?

6           MR. HOAG:   Whether it's prime,  
7           secondary or trivially mentioned somewhere  
8           in the research.

9           A.    Ironically some of that was not  
10   relating to nicotine receptors at all.  There  
11   were some studies that Doctor Ben Sheriff and I  
12   conducted looking at -- well, something called  
13   phosphoinositide metabolism and thought that,  
14   and we were interested in how that was affected  
15   by drugs and a series of compounds related to  
16   Banadat, and our interest in those studies was  
17   perhaps a little more immediate in that we were  
18   interested in manic depression.

19           Lithium is used to treat that and we  
20   thought we had a lead that we pursued and we  
21   published the results in a couple of articles, I  
22   believe publications number 31 and 32 in our --  
23   in my publication list cite those articles.

24           Q.    Were either of those ---

25           A.    And I've had the opportunity to write

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1 several review articles or overview articles  
2 along those lines. We have, we have a little  
3 bit more latitude to speculate about areas of  
4 research that aren't immediately and squarely in  
5 my field of expertise.

6 I have discussed diseases, for  
7 example. It's hard to write a review article  
8 about nicotinic acetylcholine receptors without  
9 mentioning the neurological disease myasthenia  
10 gravis, which that disease is caused by  
11 mutations that called for nicotine receptors or  
12 by a naturally -- by an autoimmune response  
13 where the body's immune system incorrectly  
14 recognized and attacks its own nicotine  
15 receptors in many cells, somehow mistaking them  
16 for some sort of foreign substance.

17 So my review articles have discussed  
18 issues of disease, and from time to time as  
19 well, my expertise is sought by clinicians at  
20 the Barrow Neurological Institute.

21 For example, I've published articles  
22 on risk factors in Alzheimer's disease and I've  
23 done some clinical studies not only in my  
24 nicotine receptor research but I also run a  
25 clinical and RNAD division at St. Joseph's

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1 Hospital where we run a lot of assays looking at  
2 neuromarkers, markers of autoimmune disease and  
3 we were running, we had, we have done some  
4 clinically relative assays looking at epileptic  
5 patients for evidence of some sort of chemical  
6 ways to determine whether someone who seems like  
7 they might be having seizures is really having  
8 seizures or is trying to fool the neurologist  
9 into thinking they are having seizures.

10 Q. And out of all those things you've  
11 just mentioned, let's back up and start with the  
12 one you mentioned on manic depression and  
13 lithium.

14 That one wasn't funded by CTR, was it?

15 A. No. I don't believe it was. What  
16 happens sometimes in the scientific community  
17 though is that if we, with the CTR program as  
18 well as many other investors are often given  
19 latitude to pursue some hot leads as they wish.

20 Q. You need to slow down because the  
21 court reporter is having trouble keeping up with  
22 you. She tries to stop you, but you can't hear  
23 her because of the phone connection. So let's  
24 stop for a second and let her ask you a few  
25 questions on things that she needed to clarify.

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1 (Short recess.)

2 | BY MR. HOAG:

3 Q. Have you ever done any research where  
4 tobacco or cigarette smoking was part of the  
5 research?

6 A. NO.

7 Q. Have you ever done any research where  
8 the effects of cigarette smoking were part of  
9 the research?

10 A. No, I haven't. Not smoking per se.

11 Q. How did you decide to submit your  
12 grant proposal to the Council for Tobacco  
13 Research back in 1985?

14           A. Well, the submission probably occurred  
15        in 1984. I probably submitted a pre-proposal to  
16        them some time in the late winter or early  
17        spring. They invited a full proposal to be  
18        submitted probably by the end of May, and the  
19        funding for that began then in January of '85  
20        and I decided to do that because I was working  
21        with nicotine and nicotine receptors.

22 Nicotine is a substance found in  
23 tobacco. I thought and hoped the Council might  
24 be interested in funding my research, and I knew  
25 that research by some other lead investigators

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1 in the field -- including Doctor Abood who we've  
2 mentioned before -- had already been funded by  
3 the Council.

4 Q. What is your understanding, if you  
5 have an understanding, of the mission statement  
6 of the Council for Tobacco Research?

7 A. Well, my understanding is, I don't  
8 know about the mission statement, I don't know.  
9 What are you referring to as the mission  
10 statement?

11 Q. A statement of the mission of the  
12 Council for Tobacco Research.

13 A. As is presented in the annual reports,  
14 the first few pages in the annual reports?

15 Q. What I'm asking you is do you have any  
16 understanding of what the mission statement of  
17 the Council for Tobacco Research is?

18 A. If you were to ask about the mission,  
19 I think I could answer that more easily. A  
20 mission statement, I don't know what you're  
21 referring to.

22 Q. What is your understanding of the  
23 mission of the Council for Tobacco Research?

24 A. My understanding is that the Council  
25 has been charged with administering a grant in

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1 the NATO program, principally to allow  
2 investigators to conduct research of their own  
3 volition regarding tobacco and its constituents  
4 on health and disease and to understand basic,  
5 basic phenomena involved in a variety of  
6 diseases that are associated and have been  
7 reported to be associated with tobacco usage, as  
8 well as understanding how the constituents of  
9 tobacco, such as nicotine, affect the brain and  
10 body.

11 My understanding also is that the  
12 source of funding for these endeavors comes from  
13 the tobacco industry, but also that the Council  
14 for Tobacco Research operates -- as do many  
15 other research grant giving organizations --  
16 through a process of peer reviews involving  
17 evaluation by a variety of eminent scientific  
18 experts of grant proposals that are submitted to  
19 the Council.

20 Q. Is it your understanding that the  
21 Council for Tobacco Research is an independent  
22 organization, and by that I mean independent of  
23 any influence from the tobacco industry?

24 A. That is my understanding and,  
25 furthermore, by virtue of the fact that

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1 scientists serve on the Scientific Advisory  
2 Board.

3 To my mind that ensures that the  
4 scientific process and the peer review process  
5 will go forward with the utmost integrity.

6 Q. Is there any part of the Council for  
7 Tobacco Research that is independent of  
8 influence from the Tobacco Research Institute to  
9 your knowledge?

10 A. To my knowledge, it depends on how you  
11 define independent, but to my knowledge the  
12 activity and the grants, those are done  
13 independently of the tobacco companies. I'm  
14 sure there are some discussions about how much  
15 money the Council will grant and I'm sure  
16 there's some interactions with the benefactors,  
17 if you will, the tobacco companies in making  
18 decisions about how much they are willing to  
19 provide to the Council.

20 So I'm certain there is some give and  
21 take there, but as far as the scientific to  
22 grant an amount program, my understanding is the  
23 Council operates with complete anonymity or  
24 autonomy rather. Sorry.

25 Q. I understand.

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1                   What does the Council for Tobacco  
2                   Research do other than have a scientific  
3                   advisory board that decides, makes decisions  
4                   concerning grants in aid?

5                   A.    Well, my understanding is that there  
6                   are some other administrative functions that the  
7                   Council has conducted, the Council of Tobacco  
8                   Research, at least some staff members have, but  
9                   my understanding of the Scientific Advisory  
10                  Board, for example, is it's involved in the  
11                  grants in aid program.

12                  Q.    What are the other activities that you  
13                  are aware of that CTR has been involved in?

14                  A.    My understanding is that there has  
15                  been some contract research that has been  
16                  administered through Council as well as a  
17                  program of discretionary funding which I believe  
18                  is referred to as the special projects.

19                  Q.    Is it your understanding that that is  
20                  all part of the Council for Tobacco Research?

21                  A.    I believe, yes, ultimately the Council  
22                  for Tobacco Research administers all three  
23                  programs; they administer the grants in aid  
24                  program, they administer the contract program as  
25                  well as the special projects program.

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1       Q.    Is it your understanding that the  
2    Council for Tobacco Research is independent as  
3    to those programs too as far as being  
4    independent from influence from the tobacco  
5    industry?

6       A.    My understanding is that it's a bit  
7    more complex.  My understanding is that some of  
8    those issues are a bit more complex.  My  
9    understanding is that -- which would you like me  
10   to address first? The special projects or the  
11   contract group?

12      Q.    The special projects.

13      A.    My understanding of the special  
14    projects is that in some way, and I'm not  
15    certain about how all these proposals were  
16    initiated, that individuals on the scientific  
17    staff at the Council, the research members were  
18    contacted by the attorneys for some of the  
19    tobacco companies.

20       Those attorneys were suggesting that  
21    their Council, asking the Council for advice  
22    about the scientific credibility and quality of  
23    some grant proposals that the attorneys became  
24    aware of and had become aware of, and they asked  
25    the Council for Tobacco Research to evaluate the

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1 value of those scientific programs as well as to  
2 administer the funding for them.

3 Q. When you say ---

4 A. The funding for those projects that  
5 met the criteria through a scientific -- that  
6 were judged worthy of funding and that were  
7 hence given some support.

8 Q. When you say asked the Council for  
9 some advice, who on the Council?

10 Is it your understanding the tobacco  
11 industry or tobacco attorneys were asking for  
12 advice?

13 A. Staff people of the Council for  
14 Tobacco Research.

15 My understanding is that the attorneys  
16 would ask members of the CTR staff to evaluate  
17 scientific proposals.

18 Q. What members of the CTR staff?

19 A. I'm sorry. I'm not perhaps as well  
20 versed as I should be in titles, but the  
21 scientific director, I believe, was involved in  
22 some of those decisions.

23 Q. The scientific director serves on the  
24 Scientific Advisory Board, is that correct?

25 A. I believe he does, yes.

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1       Q.    So it's your understanding the  
2    scientific director was asked by the tobacco  
3    industry lawyers to evaluate scientific projects  
4    that the tobacco industry wanted done, is that  
5    correct?

6       A.    That's right. Projects that the  
7    tobacco industry had an interest in.

8       Q.    And these aren't the same as the  
9    Scientific Advisory Board grants in aid  
10    programs, are they?

11      A.    Right. My understanding is that for a  
12    period of time there were -- those programs ran  
13    concurrently as the grants in aid program is  
14    running at the same time, over, throughout. But  
15    for a period of time, the special projects  
16    program was also being administered through the  
17    CTR.

18      Q.    So in that respect then, the CTR was  
19    not independent, is that correct?

20      MR. SHELY: Objection to the form.

21      A.    Did you hear that?

22      MR. SHELY: You can go ahead and  
23    answer. That was just an objection to the  
24    form.

25      A.    The Council was not acting independent

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1 of the tobacco companies in that the initiation  
2 of their request for funding did not originate  
3 with independent investigators, but to my  
4 understanding initiated with entities by or at  
5 least was mediated through the tobacco industry  
6 attorneys.

7           But I believe that the Council for  
8 Tobacco Research then acted independently,  
9 applying their best scientific judgment to  
10 evaluation of the projects to determine whether  
11 the projects merited support or not.

12          Q. So as to special projects, it's your  
13 understanding that these were funded by the  
14 tobacco industry directly to scientists,  
15 correct?

16          A. No. That's not my understanding. My  
17 understanding is that the funds for those  
18 projects were provided by the tobacco industry  
19 as was the case for all the funds that went to  
20 the grants in aid program, but it didn't go  
21 directly from the tobacco industry to the  
22 scientists.

23           My understanding is that the monies  
24 came through the CTR, the CTR administered those  
25 grants as well as rendered opinions about the

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1 scientific value of those proposals.

2 Q. Are you saying that CTR had veto power  
3 over what the tobacco industry wanted to fund  
4 and the special projects?

5 A. My understanding is that from my  
6 understanding, yes, if you put things that way,  
7 I think that the CTR, if the staff people at the  
8 CTR, the scientific staff thought that a project  
9 that was suggested for funding by a tobacco  
10 industry attorney was in fact of insufficient  
11 scientific merit, then they would say that they  
12 would not recommend funding that grant.

13 Q. What about if it didn't have a  
14 relationship between tobacco and health? Would  
15 that be a reason, too, or not, in your  
16 knowledge?

17 A. I don't know that I could answer  
18 that. I don't know that I have the information  
19 to evaluate -- I don't have information about  
20 what the criteria were that were used. But I  
21 would say that certainly from my review of the  
22 special projects and the kind of research that  
23 was funded there, that, if anything, at a time  
24 when the grants in aid program went more towards  
25 cigarette studies involving molecular

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1 neurobiologic studies, that the special projects  
2 were a continuation of the Council's initial  
3 emphasis on issues related to tobacco and health  
4 and disease.

5 Q. So you're saying that the special  
6 projects were the ones that had that direct  
7 relationship with tobacco and health as compared  
8 to the grants in aid program administered by the  
9 independent Scientific Advisory Board, is that  
10 correct?

11 A. No, I'm not saying that. I'm not  
12 saying they're mutually exclusive. I'm just  
13 saying what I said was at a time when the focus  
14 -- rightly so, I believe, because it was a trend  
15 that occurred across all scientific research  
16 agencies, when the funding of the grants in aid  
17 were devoted more toward the studies of  
18 molecular and biological, the special program  
19 continued the tradition, if you will, for the  
20 Council of supporting such as epidemiological  
21 studies and studies relating to tobacco use,  
22 health and disease.

23 Q. So that tradition that was continued  
24 was continued through the special projects, is  
25 that right?

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1           A. Well, I think there certainly were  
2        some grants in aid that addressed those issues  
3        but the special projects, in as far as I could  
4        tell, had a bit more of an emphasis on those  
5        kinds of studies than the molecular and cellular  
6        kind.

7           Q. Only a bit more?

8           A. A bit, it's a very loose term. I  
9        would say there was more. There was more  
10       emphasis in the special projects on research  
11       related to tobacco use and issues of health and  
12       disease, and I can understand why, too. I think  
13       it's a completely irrational thing to do. It  
14       was probably difficult. Science is a very  
15       trendy thing and getting grants to do science,  
16       you really have to be successful at that, you  
17       need to keep up with the field.

18           I think at a time when many people  
19        were realizing the deficiencies in  
20        epidemiological studies or studies with animal  
21        models trying to demonstrate on an animal model,  
22        trying to develop an animal model for human  
23        disease, those were falling out of the favor in  
24        the scientific communities. People wanting to  
25        give grants for that were few and far between.

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1           I believe the Council stepped in to  
2 try to continue those, and it's my evaluation  
3 that the special projects were devoted toward  
4 continuing support for those kinds of studies  
5 that perhaps were more directly related to  
6 tobacco issues related to health and disease at  
7 a time when those kinds of projects might not  
8 have been competitive at other grant giving  
9 agencies.

10           (Short recess.)

11           BY MR. HOAG:

12           Q.    The special projects as far as your  
13 review, what have you reviewed regarding special  
14 projects?

15           A.    I have looked at, I believe there's an  
16 affidavit from Doctor Glenn that contends some  
17 summaries about the special projects including  
18 journals in which results of projects supported  
19 by the special projects program in which those  
20 were published, a list of grantees through the  
21 special projects program, and a list of all the  
22 -- of the project itself and I've seen many,  
23 many of the publications that were supported by  
24 the special projects.

25           Q.    Have you seen the 137 page document

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1 that is titled Special Projects Administered by  
2 the Council for Tobacco Research?

3 A. Without having access, I don't know  
4 that it was 137 pages. I don't remember that,  
5 but I have seen a listing of special projects,  
6 yes.

7 Q. Now these special projects, were they  
8 grants?

9 A. I believe that you could call them  
10 grants, yeah, in that at some point there was a  
11 proposal. See, at some point there was a  
12 proposal that was proffered and the funds were  
13 provided for that research to be done. In a  
14 way, I think there is some implication that  
15 there was some greater involvement in initiating  
16 of those projects or that perhaps, perhaps there  
17 were other outs, but I would call them grant  
18 projects, yes.

19 Q. Would you also call them research  
20 projects?

21 A. Absolutely. They would be called  
22 research projects as well. Although there may  
23 have been a couple of cases, I think I read  
24 something in my review of documents suggesting  
25 that there might have been support for a

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1 symposium or for some travel to scientific  
2 projects but for the most part, the balance of  
3 them, the great majority of them are what I  
4 would call research grants for the conducting of  
5 research.

6 Q. Do you know whether or not the tobacco  
7 industry or any representatives of the tobacco  
8 industry ever did what would be equivalent to  
9 request for proposals to any scientist or  
10 scientific organization?

11 MR. SHELY: We couldn't quite hear the  
12 end of the question. The question was  
13 whether any representatives of the tobacco  
14 company did what? Submitted?

15 BY MR. HOAG:

16 Q. Did anything that would be equivalent  
17 to making requests for proposals to scientists  
18 or scientific organizations?

19 A. I don't believe that I've seen any  
20 documents that address that issue.

21 Q. You don't know one way or the other?

22 A. No.

23 Q. Do you know whether or not tobacco  
24 industry attorneys or other representatives ever  
25 contacted scientists to ask them if they would

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1 do certain research for them?

2       A. I don't know. I certainly could  
3 speculate, but I don't know that I want to  
4 speculate, but I don't know the details of how  
5 the projects were initiated.

6       Q. Do you know whether or not that's ever  
7 been done, where the tobacco company, for  
8 example, tobacco company attorneys contact the  
9 scientists and ask them if they will be involved  
10 in conducting certain research?

11      A. No, I don't know if that happened in  
12 this case. On the other hand, for example,  
13 there are many cases even with the Federal  
14 Government for the National Institutes of Health  
15 where an RPA or RFP's will be sent out where the  
16 grants are rewarded, not contracts, grants are  
17 rewarded that in principal are investigator  
18 initiated in that the design of the project is  
19 rendered by the applicant, but the general  
20 context, the general theme, is semantic issues  
21 that the agency wishes to address, that that  
22 grant must lie somewhere in the domain of those  
23 areas of interest to the funding agency.

24      Q. Okay. Obviously I didn't ask you  
25 about what your understanding of what the

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1 government does. What I was asking you was what  
2 is your understanding of what the tobacco  
3 industry does.

4 Do you know whether the tobacco  
5 industry ever makes contact with scientists in  
6 one way or another asking them to do specific  
7 types of research for them?

8 A. Again, no, I'm not aware. I have not  
9 seen any documentation that addresses that. And  
10 I simply pointed out that this -- but having  
11 RPA's or RFA's is not an unusual kind of  
12 practice and the definition of terms, clearly  
13 the grants in aid program is purely investigator  
14 initiated program.

15 If there's an RFA, how do you define  
16 that? Is that initiated by the agency or is it  
17 initiated by the investigator in the initial  
18 investigation who decides actually what to do,  
19 but in broad strokes, the agency asks for people  
20 to do research within a specific area.

21 Q. Do you know whether or not the special  
22 projects funded by the tobacco industry were in  
23 fact controlled by the tobacco industry?

24 A. I have no knowledge of that. I see no  
25 evidence that it was.

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1       Q.    Have you reviewed any tobacco industry  
2 internal documents?

3       A.    There may have been a few documents  
4 that I have seen in affidavits from Doctor  
5 Lasante, for example, but to my recollection, I  
6 don't know that they address the special  
7 projects program.

8       Q.    Who is Doctor Lasante?

9       A.    He was a staff member, a scientific  
10 staff member at the Council, if my memory is  
11 correct.

12      Q.    What affidavit of his did you review?

13      A.    It was an affidavit filed in one of  
14 the cases.

15            May I ask Rodney or Bob if they recall  
16 which case that was?

17      Q.    Well, if it will help you refresh your  
18 recollection to what affidavit it was, you can.

19            MR. SHELY: We didn't hear what you  
20 said, that last statement.

21            MR. HOAG: I said if it will help you  
22 refresh your recollection as to where the  
23 affidavit came from that you reviewed ---

24            MR. OTT: It was an affidavit that was  
25 submitted in the Chile's case in Florida.

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1           A.    That's right. I remember that. It  
2    was the Chile's case.

3           Q.    Which is the Florida Attorney  
4    General's case?

5           A.    That's right.

6           Q.    Which currently jury selection is  
7    taking place, I believe, in that case.

8           Are you going to be an expert witness  
9    in that case or you don't know yet?

10          A.    I haven't been asked and I don't know  
11    yet.

12          Q.    Has your deposition been scheduled in  
13    any other case other than Engle?

14          A.    There is a scheduled deposition for  
15    the Texas Attorney General case.

16          Q.    When is that scheduled for?

17          A.    Tomorrow.

18          Q.    Oh. Same place in Phoenix?

19          A.    That's right.

20          Q.    Did you bring any documents with you  
21    today?

22          A.    No, I didn't.

23          Q.    What's your understanding of the time  
24    frame in which CTR had anything to do with  
25    tobacco industry special projects?

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1       A. I haven't committed that period to  
2 memory, but I believe it went for about eight  
3 years, about 10 years, maybe a little longer  
4 than that into the early eighties, and my  
5 understanding is that, I think my recollection  
6 is about the time that Doctor Glenn became  
7 scientific director, the special projects were  
8 phased out.

9       Q. So your recollection of the special  
10 projects were only in existence for  
11 approximately ten years?

12      A. Perhaps a little longer than that as  
13 the phase out period may have extended a while  
14 longer. That's my understanding though, yes, or  
15 at least that's my recollection.

16      Q. And your recollection is based in part  
17 on looking at a complete list of special  
18 projects administered by the Council for Tobacco  
19 Research, is that correct?

20      A. That's right.

21      Q. Do you recollect seeing a special  
22 project called Multi Varied Analysis of  
23 Longevity Data Techniques, Development of  
24 Efficient Clustering Technique?

25            MR. SHELY: Can you say that again.

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1           please? It didn't come across clearly.

2 BY MR. HOAG:

3           Q. It's called Multi Varied Analysis of  
4 Longevity Data Comparison of Various Multi  
5 Varied Techniques, Development of Efficient  
6 Clustering Technique which was initially funded  
7 by Council special project in January of 1966.  
8 Do you remember having seen that?

9           A. I remember having seen that title. I  
10 don't recall who the investigator was. But I do  
11 remember seeing that in -- I may have the cases  
12 or results that resulted from that project.

13           Q. Do you recall that date, January of  
14 1966?

15           A. I haven't committed that to memory,  
16 no, but if that's what the document you have  
17 indicates, then I'm sure that's correct.

18           Q. So I guess I am confused about your  
19 entire recollection because the document I'm  
20 looking at is a list of special projects  
21 administered by the Council for Tobacco Research  
22 and that first date is 1966 and it has dates all  
23 the way into the 1990's. So that's not  
24 consistent with your recollection of the length  
25 of time that the special projects were in

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1 existence?

2 A. Well, my memory is probably not as  
3 accurate as the written document, and perhaps  
4 I've contracted a period of time in my own mind  
5 over which the special projects were funded, so  
6 I would certainly rely on what the documents  
7 say.

8 Q. How long ago did you review those  
9 documents?

10 A. I've been reviewing them over the last  
11 two or three months.

12 Q. How many hours have you spent so far  
13 in preparation for this deposition or any other  
14 tobacco-related deposition for CTR?

15 A. I've probably spent about 50 to 60  
16 hours so far working on these cases.

17 Q. And how much is your hourly fee?

18 A.

19

20 **REDACTED**

21 Q.

22

23 A. No, I think I've billed for maybe  
24 about 40 hours or so.

25 Q. So there's about 10, 20 more hours

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1 that you haven't yet billed for?

2 A. That's right.

3 Q. How many more hours do you expect to  
4 spend preparing for litigation as an expert for  
5 CTR?

6 A. Well, as the need arises, it's a  
7 little hard to predict that right now, but there  
8 certainly are, I certainly do anticipate that as  
9 litigation continues, I'll continue to review  
10 documents.

11 Q. Let me just briefly make sure-- I'm  
12 looking at your curriculum vitae and I want to  
13 summarize the funds that you've received or the  
14 awards or grants you're received from the  
15 Council for Tobacco Research.

16 The first one ran from January of 1985  
17 to December of 1987, and that was Influence of  
18 Nicotine on Neuronal Expression of Acetylcholine  
19 Receptors. Correct?

20 A. That's right.

21 Q. And that was \$97,640 and plus up to an  
22 additional 15 percent for administrative costs,  
23 correct?

24 A. Correct.

25 Q. And the next one was an extension of

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1 the first one I just read, and it had the same  
2 exact title as the one I just read, and that ran  
3 from January of 1988 to December of 1990 and the  
4 direct costs of \$194,469, is that correct?

5 A. That's correct. Let me clarify. I  
6 don't know that you can formally call this an  
7 extension. It was a competing renewal  
8 application.

9 My proposal went into the mix with all  
10 other new proposals and through a process of  
11 peer review it was deemed worthy of funding, so  
12 it wasn't an extension of that project without  
13 another round of peer review. It had a totally  
14 independent peer review again.

15 Q. And that total I just read of  
16 \$194,469, also an additional maximum of 15  
17 percent for administrative costs, is that  
18 correct?

19 A. That's correct.

20 Q. And the most recent Council for  
21 Tobacco Research funding you've received is for  
22 what is called Mechanics of Nicotine Regulation  
23 of Nicotonic Receptor Expression?

24 A. That's correct.

25 Q. Which is from July of 1996 and runs

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1 through June of 1999. Correct?

2 A. That's correct.

3 Q. And that's for \$137,064 direct costs  
4 with a possible additional 15 percent in  
5 administrative costs, correct?

6 A. That's right, and I believe that 15  
7 percent should probably compute to the number  
8 given there for total costs.

9 Q. You mean in addition to the \$137,064  
10 total cost?

11 A. So the total direct cost is one  
12 thing. The total cost includes direct and  
13 indirect costs.

14 Q. Right, so, for example, if we totaled  
15 up the direct cost of \$137,064 and we added in  
16 15 percent, it would be another, approximately  
17 another \$20,000?

18 A. Right.

19 Q. So total costs would be somewhere  
20 around \$157,000?

21 A. That's correct.

22 Q. And that's for the project that was  
23 recently funded that runs through June of 1999,  
24 correct?

25 A. That's correct.

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1           Q.    Do you have any other applications for  
2   funding in process with CTR funding?

3           A.    No, I don't.

4           Q.    Now when it says in here that it's  
5   funded from July of '96 to June of 1999, the  
6   total cost, it's a cumulative total cost, it  
7   isn't a yearly cost that's listed here at  
8   \$137,064 is that correct?

9           A.    No. That's not an annual cost.  
10          That's the total cost of the duration of the  
11   grant.

12          Q.    Okay. Now the Council for Tobacco  
13   Research has a board of directors that is  
14   comprised of members of the tobacco industry,  
15   correct?

16          A.    That is my understanding, yes.

17          Q.    And those members of the tobacco  
18   industry that are on the Board of Directors,  
19   they select the CEO of the organization,  
20   correct?

21          A.    I'm not certain about that. But, that  
22   would seem like a plausible procedure.

23          Q.    You don't know? What was that?

24          MR. SHELY: I think the question was  
25   you don't know?

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1           A. No, I don't know precisely. I said I  
2           don't know but it sounds like it's a plausible  
3           procedure.

4           Q. So Doctor James Glenn, you don't know  
5           whether or not he was hired by the board of  
6           directors comprised of tobacco industry  
7           representatives or not, correct?

8           A. Right. I don't know the internal --  
9           I'm not -- I'm not sure what the policies and  
10           procedures are for hiring of a scientific  
11           director.

12           Q. Is that your understanding of the  
13           title for Doctor James Glenn?

14           A. I believe so, yes.

15           Q. Does he have any other titles that  
16           you're aware of?

17           A. I know he's a distinguished physician  
18           and scholar so I'm sure he has other titles as  
19           well.

20           Q. Does he have any other titles with CTR  
21           that you're aware of?

22           A. Not that I recall.

23           Q. Do you know whether or not he has any  
24           other ties to the tobacco industry other than  
25           being an official with CTR?

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1       A. Not that I am aware of, and that's  
2 based on review of affidavits that he has  
3 submitted that I have had the opportunity to  
4 review.

5       Q. Based on affidavits that he's  
6 submitted, do you know whether or not he is a  
7 tobacco farmer?

8       A. No, I don't recall reading anything  
9 about that.

10      Q. Does he own a tobacco farm?

11      A. He may have -- I think he has a farm  
12 in Kentucky. I may remember something about  
13 that. My understanding, I seem to recall that  
14 he's maybe involved in horse raising or breeding  
15 of horses.

16           I'm not certain, though.

17      Q. But you don't have any recollection of  
18 him being involved in tobacco farming, is that  
19 correct?

20      A. But I do have a recollection that he  
21 does have a farm, that I think that he -- I  
22 think I read that he does have some sort of  
23 enterprise in Kentucky and I believe, I  
24 extrapolated I guess that it involves horse  
25 breeding or horse raising of some kind.

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1           Q. Now, if he in fact owns a tobacco  
2 farm, would that in your opinion be in any type  
3 of conflict of interest with his position with  
4 CTR?

5           A. No, not necessarily.

6           Q. Is that an equivocal no or an  
7 unequivocal no? You said not necessarily.

8           A. No, not necessarily. You know, it's  
9 an issue of the integrity of the person.

10          Q. So you know what I mean when I say  
11 conflict of interest, right?

12          A. Well, could you clarify?

13          Q. What's your understanding of the term  
14 conflict of interest?

15          A. It could take many forums and I'm not  
16 certain what you're asking.

17          Q. Do you have a definition of conflict  
18 of interest?

19          A. Well, I imagine that, first of all,  
20 there are cases where there might appear to be a  
21 conflict of interest where someone has the  
22 integrity so that there is, in fact, not a  
23 conflict of interest, so -- but whether it's  
24 theoretical or an actual conflict I think is  
25 something that really has to be addressed on a

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1 case by case basis.

2 Q. Is it possible for the Council for  
3 Tobacco Research to do research that would be  
4 harmful to the tobacco industry?

5 A. The Council for Tobacco Research  
6 doesn't do research.

7 Q. Is it possible for the Council for  
8 Tobacco Research to fund research that would be  
9 harmful to the tobacco industry?

10 A. I think it certainly is possible.

11 Q. So would a person who has a vested  
12 interest in the economic well-being of the  
13 tobacco industry have any conflict if that  
14 person was in a position, such as the position  
15 that Doctor James Glenn is in?

16 MR. SHELY: Objection to the form.

17 Lack of foundation. Lack of circumstances  
18 that would allow this witness to answer.

19 Lack of hypothetical.

20 BY MR. HOAG:

21 Q. You can answer now.

22 A. I don't know that Doctor Glenn has an  
23 interest in tobacco. But, furthermore, I think  
24 that in his position and given his credentials,  
25 I have no reason to believe that he would be

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1 able, that he would not be able to separate  
2 himself from his duties or responsibilities as a  
3 Scientific Advisory Board member for a  
4 not-for-profit grant giving organization from  
5 his own personal interest or holdings.

6                   Was I clear enough about that?

7                   Q. Are there any circumstances under  
8 which you would think it would be a conflict of  
9 interest for Doctor James Glenn to have an  
10 economic interest in the tobacco industry and  
11 hold his position with CTR?

12                  MR. SHELY: Objection. Calls for  
13                   speculation.

14                  A. Well, again, I don't know Doctor  
15 Glenn's personal circumstances at all. My  
16 review of documents he submitted suggest to me  
17 that he's a very prominent individual with high  
18 integrity and I would have no reason at all to  
19 believe that anything outside of, anything  
20 outside of his functions as a scientific  
21 director would influence his actions as  
22 scientific director with the CTR.

23                  Q. But you reviewed no documents that he  
24 submitted that indicated that he was the owner  
25 of a tobacco farm, is that correct?

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1           A. Again, I don't recall seeing that in  
2 the documents that I have reviewed, any  
3 indication that he owns a tobacco farm.

4           Q. Well, do you think he would have a  
5 duty to disclose that in any public document  
6 regarding his position with CTR?

7           MR. SHELY: Objection. Calls for an  
8 opinion and the man is clearly not  
9 qualified to offer it. No foundation.

10          A. That's a legal issue and I'm not an  
11 attorney. I don't know that I can answer that.

12          Q. I thought that one of the things you  
13 were going to talk about was the integrity of  
14 the scientific research funded by CTR.

15          A. Yes, it is, and the basis for that,  
16 there are many different bases on which I would  
17 render my expert opinion as someone who has  
18 gotten and has gotten grants and played a role  
19 in deciding who might get grants from other  
20 agencies.

21          Q. Well, are there any disclosure  
22 requirements when someone is funded by CTR that  
23 you're aware of?

24          A. Disclosure requirements on the part of  
25 who?

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1           Q.    The person doing the research and  
2 publishing it?

3           A.    No, from my involvement as a grantee  
4 for the Council of Tobacco Research, that  
5 organization operates as does any other grant  
6 giving organization. I've never had anyone ask  
7 about conflicts in interest there.

8           I know that conflicts of interest or  
9 disclosure statements -- I know in my institute,  
10 and this is something that has come up in the  
11 National Institutes of Health and Federal  
12 Regulations ---

13           Q.    Excuse me, you're not understanding my  
14 question. What my question is about is  
15 disclosure, and let me be very specific so as  
16 not to confuse you.

17           Are people who receive CTR funding  
18 required to disclose the fact that they received  
19 CTR funding on research that they publish?

20           A.    I don't know that it's a requirement.  
21 It is a common practice. I think anyone who has  
22 been awarded a grant or proposal should be and  
23 usually is pretty grateful for the support that  
24 allows them to conduct their research, and so  
25 the common practice is to cite the Council for

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1 Tobacco Reserve as a source of funding in  
2 instances that that support can be legitimately  
3 tied to the research that was conducted.

4 I know that from my interactions from  
5 the Council, they ask for us to send in copies.  
6 I think they ask us to -- I don't know that they  
7 demand, they ask us to cite them as a source for  
8 support and they also ask us to send them copies  
9 of their publications so they can simulate them  
10 in annual articles and reports and any other  
11 reports that they need to construct.

12 Q. Were the special projects at CTR for a  
13 CTR program?

14 A. I'm sorry. Could you repeat the  
15 question? You asked whether the special  
16 projects was a CTR program?

17 Q. Yes.

18 A. Yes, it's my understanding that it  
19 was, yes.

20 Q. What do you base that understanding  
21 on?

22 A. Well, that all the documents that I've  
23 seen about the special projects have been  
24 documents prepared through the Council of  
25 Tobacco Research and that the CTR was involved,

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1 as I mentioned previously, in making scientific  
2 decision about the value of those proposals for  
3 special project funding as well as administering  
4 the distribution of funds.

5 Q. Is the word grants and grants in aid,  
6 are those synonymous, same thing?

7 A. Yes, we can use those interchangeably.

8 Q. When it's referred to funding for  
9 research, is that the way they're commonly  
10 used? Grants or grants in aid, they mean the  
11 same thing?

12 A. I believe so, yes. I think that's a  
13 common practice.

14 Q. When the special projects were in  
15 existence at CTR, was CTR completely autonomous  
16 in its programs of grants in aid in contracts  
17 for research with institutions and laboratories?

18 A. The grants in aid in so far as it was  
19 the investigator initiated kind that was  
20 administered through the Scientific Advisory  
21 Board, yes, I believe there was full  
22 independence of, in operation of that research  
23 program, yes.

24 Q. That wasn't what I asked. I said when  
25 the special projects were still in existence --

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1 shall I repeat the whole question?

2 A. All right.

3 Q. And I understand you're saying as far  
4 as the Scientific Advisory Board's grants in aid  
5 that were provided, your answer was yes, they  
6 were independent.

7 As far as the special projects were  
8 concerned, was CTR completely autonomous in its  
9 programs of grant in aid in contracts with  
10 research with institutes and laboratories?

11 A. I think we've already discussed this.  
12 Would you like me to reiterate?

13 Q. I would like you to answer my  
14 question.

15 MR. SHELY: I think he already did but  
16 he'll be happy to do it again.

17 A. Okay. Again, my understanding of the  
18 process that was presented to the -- probably  
19 the Scientific Advisory Board or some person at  
20 the Council for Tobacco Research were projects  
21 that attorneys for the tobacco companies were  
22 interested in. They asked the Council staff  
23 people to evaluate the scientific merit of those  
24 proposals.

25 My understanding is that if the

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1     Council felt there was adequate scientific  
2     merit, then that funding would be found for  
3     those projects and the Council would administer  
4     the giving of that money and manage the  
5     administrative issues related to operating that  
6     special projects program.

7                     So the extent to which the scientific  
8     judgments were made independently, I think yes,  
9     scientific judgments were made independently but  
10    I don't think that you could characterize this  
11    as an entirely independent process in that there  
12    was more interaction between Council staff  
13    people and tobacco industry personnel than would  
14    have occurred for the grants in aid program  
15    through which grants were reviewed via peer  
16    review by the Scientific Advisory Board.

17                   Q.    So CTR as far as special projects were  
18    concerned, was not completely autonomous,  
19    correct?

20                   A.    The scientific evaluation I think was  
21    carried out with integrity and independence, but  
22    because of somewhere along the line, the tobacco  
23    industry attorneys seem to have been involved in  
24    bringing projects to the attention of the CTR  
25    and I don't think you could characterize that

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1 part of the process as being independent of the  
2 tobacco industry at all.

3 And ---

4 Q. Yes, go ahead.

5 A. I was going to say maybe to go back  
6 and clarify, grants in aid versus grants. Maybe  
7 just so that we can be more precise, how about  
8 if I call the grants in aid program the program  
9 that was administered through the Scientific  
10 Advisory Board, but the grants would be a  
11 broader term that would cover the Scientific  
12 Advisory Board, reviewed projects as well as the  
13 special projects which were grants given to  
14 investigators for research of their own design.

15 Q. What did you mean, how about if you  
16 say that?

17 A. I'm just asking, if you agree as far  
18 as that, that would be a terminology that we  
19 might use from here forward.

20 Q. You can answer the questions that I  
21 ask you any way you want to. I didn't have any  
22 question pending right there so I'm not even  
23 sure at all what you are getting at, but ---

24 MR. SHELY: He started to speak and I  
25 was going to tell him there was no question

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1 pending and he decided to continue, so that  
2 was the question.

3 MR. HOAG: Right. No, he said what he  
4 said but it's not in response to any  
5 question that I asked.

6 MR. SHELY: It was in response, I  
7 didn't get a chance to go ahead and jump in  
8 and say there was no question pending  
9 before you invited him to answer.

10 MR. HOAG: As far as your last comment  
11 which wasn't in response to any question,  
12 I'll just move to strike as unresponsive.

13 MR. SHELY: I'm going to impose the  
14 motion on the grounds I just stated.

15 BY MR. HOAG:

16 Q. As far as the special projects were  
17 concerned, did CTR work with the guidance of  
18 twelve independent scientists in reviewing those  
19 special projects?

20 A. Not to my understanding.

21 Q. Do you know whether or not researchers  
22 who received special projects were required to  
23 disclose on the research that it was funded  
24 through a CTR funded special project?

25 A. I'm not certain whether they were

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1 required to or simply asked to, but in my review  
2 of the documents, it included many of the  
3 publications derived from the special projects,  
4 it became clear that the great majority of those  
5 certainly made reference to the special projects  
6 program.

7 Q. When did you first become aware of CTR  
8 special projects?

9 A. Knowledgeably aware, I would have to  
10 say in the course of reviewing documents  
11 regarding these cases, but in actuality, it jogs  
12 my memory that there was some time, there were a  
13 couple of occasions when in reviewing the  
14 scientific literature, I came across articles  
15 that were published that cited Council for  
16 Tobacco Research special projects and I do  
17 remember saying, that, I wonder what that is,  
18 but it's not something I ever followed up since  
19 then and again, until reviewing documents for  
20 this deposition.

21 Q. So the first time you had any  
22 understanding of what a CTR special project was  
23 was when you started to prepare for this  
24 deposition and others for CTR, is that correct?

25 A. That's right, but I do recall noticing

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1 that the, not the disclaimer but the  
2 acknowledgment of special projects reports on a  
3 few publications over the years.

4 Q. Have you ever heard of a Doctor  
5 Theodor -- it's Ph.D., Doctor Theodor D.  
6 Sterling?

7 A. Yes. The name is familiar. I don't  
8 recall precisely the context, whether Doctor  
9 Sterling was a Scientific Advisory board member  
10 or a grantee. I don't recall, but I have seen  
11 that name.

12 Q. Well, this might refresh your  
13 recollection.

14 On the document that's the list of  
15 special projects administered by the Council for  
16 Tobacco Research, his name appears on special  
17 project number 71 which is dated from September  
18 1st, 1973 to March 31, 1990, and it goes on from  
19 page 47 all the way to page 62 listing research  
20 projects that fell within that special project  
21 number 71.

22 Does that refresh your recollection at  
23 all as to who Doctor ---

24 A. I remember looking at those entries.

25 Q. Do you remember whether or not you

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1       looked up any of the research that was published  
2       by Doctor Sterling?

3           A.    I'm sure that I have looked at a  
4       couple of those publications, but at the moment  
5       I don't remember the precise content of those  
6       reports.

7           Q.    Do you remember seeing or reading the  
8       title of an article by Sterling that was called  
9       Indirect Health Effects of Relative Humidity in  
10      Indoor Environments?

11       A.    I do remember seeing that title,  
12      reading that title, yes.

13       Q.    Did you have occasion to look up that  
14      article?

15       A.    I think that's one of the ones that I  
16      glanced through or at least read the abstract.  
17      If I'm not mistaken, it's a, I think a study,  
18      now that you're refreshing my memory.

19           There were a series of studies that  
20      Doctor Sterling conducted concerning  
21      environmental air quality in specific  
22      environments.

23       Q.    What specifically did he -- what was  
24      the research that he did for Indirect Health  
25      Effects of Relative Humidity in Indoor

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1 Environments?

2 A. What was the research? I really  
3 didn't hear you. Could you repeat?

4 Q. What do you recollect about the  
5 abstract for Indirect Health Effects of Relative  
6 Humidity in Indoor Environments?

7 A. I'm afraid that I don't remember the  
8 details of that article or the abstract.

9 Q. What, if anything, does the relative  
10 humidity in indoor environments have to do with  
11 the health effects of tobacco smoke?

12 MR. SHELY: Objection, foundation.

13 You can answer.

14 A. That's an area of investigation that's  
15 outside my area of expertise, so I don't know  
16 that I'm really qualified to render a judgment  
17 about that.

18 Q. Is it your understanding that this was  
19 one piece of research that Doctor Sterling was  
20 funded to do as a special project?

21 A. Well, again, I can conjecture and  
22 speculate. Just by looking at the long list of  
23 projects and publications, it seems to me that  
24 the general theme of his research was air  
25 quality and environmental air quality.

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1                   But that's, I think that's the extent  
2 of my understanding of his work.

3                   Q.    Is it your understanding that those  
4 projects were funded as CTR special projects?

5                   A.    Yes, I think that's evident from the  
6 fact that there's publications which were  
7 included in the list of special projects and I  
8 would imagine, but I'm not certain, that Doctor  
9 Sterling would have cited the CTR special  
10 projects as having supported the work.

11                  Q.    But if one were to be, well, I'm not  
12 saying Doctor Sterling, but if the tobacco  
13 industry who have been completely straight  
14 forward about it, they would have just said it  
15 was funded by the tobacco industry, wouldn't  
16 they?

17                  MR. SHELY: Objection to the form. Go  
18 ahead and answer.

19                  A.    I don't know about that. I think it's  
20 legitimate to say it was funded by the tobacco  
21 research and special programs, and if I had the  
22 inclination, I'm sure I could have made a phone  
23 call the first time I saw the special projects  
24 acknowledgment, I could have made a phone call  
25 to find out more details about that program and

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1 who funded it.

2                   But, you know, to answer your  
3 question, I don't know that that is something  
4 that would be necessary to indicate that it was  
5 funded by the tobacco industry.

6                   Q. You know that the tobacco industry  
7 publicly states that CTR is completely  
8 autonomous, correct?

9                   A. I think -- I don't know the precise  
10 wording of any of the public reports of that,  
11 but I think that in general terms, I think that  
12 that is the intent and I think certainly the CTR  
13 does, particularly through the Scientific  
14 Advisory Board, does act with autonomy.

15                   Q. My question is, do you know whether or  
16 not the tobacco industry publicly states and has  
17 consistently publicly stated that the Council  
18 for Tobacco Research is completely autonomous?

19                   MR. SHELY: What was the last word on  
20 that, John?

21                   MR. HOAG: Is completely autonomous,  
22 that was the last three words.

23                   MR. SHELY: My objection is asked and  
24 answered. I think he answered it last  
25 time. If you want him to state it again,

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1                   he will.

2                   A.    You know, taking, you know, those  
3                   kinds of statements often are held in context.  
4                   I don't know the context of the public reports  
5                   or publisher to which you are making reference,  
6                   but my understanding is that the Council for  
7                   Tobacco Research does operate with complete  
8                   independence in handing out and administering  
9                   their grants in aid program as we discussed  
10                  already.

11                  Q.    But not with regard to special  
12                  projects?

13                  A.    Well, again, the issue of -- I think  
14                  we have addressed this before as well, and that  
15                  is that if there is any tobacco industry  
16                  involvement, it is that it's somewhere along the  
17                  line attorneys from the tobacco companies have  
18                  made suggestions to the CTR that some research  
19                  projects might be worthy of funding.

20                  Q.    It's a totally different process than  
21                  the Scientific Advisory Board process, correct?

22                  A.    Well, it's a different process but I  
23                  don't know that it's totally different because  
24                  once the funds are in the hands of the  
25                  investigator, my understanding is that the

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1      investigators have complete freedom to pursue  
2      whatever line of study they wish and to publish  
3      their results, no matter what they are, in  
4      journals of their own choosing and in forums of  
5      they're own choosing.

6            Q.    And how did you come to that  
7      understanding?

8            A.    I came to that understanding from  
9      looking at the list of projects, the journals in  
10     which those projects, the special projects  
11     reports were published, the listing of the  
12     investigators and the prominent institutions  
13     with which they have had affiliations.

14           The fact that the reports were  
15     published and to me, before I even knew about  
16     the special projects, there's the relationship  
17     between grants that were funded by the special  
18     projects or grants that were funded through the  
19     grants in aid program administered under the  
20     auspices of the Scientific Advisory Board were  
21     entirely seamless.

22           I could see no difference in reports  
23     by either the special projects or the grant in  
24     aid program.

25           Q.    So then one would be lead to believe

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1 that CTR was completely autonomous, is that  
2 correct?

3 MR. SHELY: Objection. Calls for  
4 speculation. Incomplete hypothetical.

5 A. I think I answered already about, you  
6 know, the relationship between the CTR and it's  
7 autonomy with regard to special projects and  
8 with regard to the grant in aid program.

9 I think the main point here, the  
10 critical issue is that ultimately the scientific  
11 research was done according to investigator  
12 design and all the scientists who had -- who  
13 conducted research under the auspices -- the CTR  
14 funded a special project, all of that research  
15 was published fully at the discretion of the  
16 scientist who conducted the research.

17 So that's where you have the autonomy,  
18 that's where you have the independence, that's  
19 where ultimately the proof is in the pudding,  
20 that getting things published and then looking  
21 back historically at those publications, their  
22 value is not judged at a given point in time,  
23 but often is judged retroactively when it comes  
24 to scientific research when we don't always  
25 appreciate what the immediate impact of what

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1       those research projects will be in the long run.

2           Q.    Is it possible to do good research  
3       that has absolutely nothing to do with tobacco  
4       and health?

5           A.    Of course. I think there's a lot of  
6       research being done around the country that has  
7       absolutely nothing to do with tobacco and  
8       health.

9           Q.    There were a lot of special projects  
10      that had absolutely nothing to do with tobacco  
11      and health too, correct?

12           A.    Oh, I don't know that I would say  
13      that. Often it's just as difficult to judge  
14      contemporaneously the impact and the importance  
15      of scientific work on the date that it's  
16      published, it's difficult to judge the relevance  
17      in the long run eventually of some research  
18      projects, funded or not, to tobacco health and  
19      disease. We don't have the benefit of being  
20      omnipotent and having a hindsight on a lot of  
21      these issues.

22           Q.    Well, you do know that the special  
23      projects were initiated through requests from  
24      tobacco industry attorneys, correct?

25           A.    That's my understanding, that at least

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1 some of them were, yes.

2 Q. And you know they were initiated for  
3 the purpose of defending the tobacco industry  
4 against lawsuits, correct?

5 A. I don't know that that's the case. I  
6 have not seen anything that would indicate that.

7 Q. Well, you really haven't reviewed the  
8 tobacco industries' internal documents, have  
9 you?

10 A. No, I haven't. But, on the other  
11 hand, I think it's possible to think that to  
12 come up with a conspiracy theory that would say  
13 the tobacco industry is trying to guide  
14 research, but what I would state is, and assert  
15 is that once the research is in the hand of the  
16 scientists, the scientists will follow their  
17 notes. They will follow their rules, they'll  
18 publish findings. The integrity of the  
19 scientific process, I hope is, integrity, is as  
20 good as it can be.

21 I see no reason to think that  
22 scientists would be swayed by intent in any way  
23 that scientists would be aware of or be swayed  
24 by any conjecture that there might be some back  
25 room meetings trying to direct research. Once

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1 it's in the scientists' hands, all bets are  
2 off. The scientists are going to conduct their  
3 research, get their results and they're going to  
4 publish them, and ultimately nature is the  
5 arbiter as to whether their results are valid  
6 and correct or not.

7 Q. Well, if I, as a tobacco industry  
8 attorney tell you I want you to do research, I  
9 would like you to do independent research on the  
10 indirect health effects of relative humidity in  
11 indoor environment, why would I care that you're  
12 going to publish that research? It's not going  
13 to hurt the tobacco industry, is it?

14 MR. SHELY: Objection. Lacks  
15 foundation. Makes assumptions not in the  
16 record. Incomplete hypothetical.

17 Go ahead and answer.

18 A. Well, I can see where there -- I can  
19 see where there would be an interest, maybe a  
20 tobacco company would have an interest in what  
21 elements of indoor air quality are factors in  
22 making assessments of -- I can imagine -- let me  
23 start again.

24 I can imagine a scenario where out of  
25 complete innocence and ambivalence, that the

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1 tobacco industry was truly interested in what  
2 the effects of tobacco smoke in an environmental  
3 -- indoor environment would have had on the  
4 health industry, but before that research can be  
5 well designed, well constructed, properly  
6 interpreted, there are many, many other elements  
7 to indoor air quality that can influence the  
8 results, and I can see perfectly well where a  
9 study by Doctor Sterling on effects of humidity  
10 on some of those factors would be quite relevant  
11 to how indoor air quality, how humidity might  
12 interplay with smoke in the air, in depositions  
13 in particular.

14 So I don't know that we can, I have no  
15 basis to read into what the motives were. All I  
16 can say is that science -- I think that the  
17 science will be conducted with full integrity  
18 and I'm also saying that things are complex and  
19 that there are many ways in which something that  
20 seems to have no relevance at all to tobacco  
21 health and disease to a lay person or even to an  
22 attorney or even to an educated scientist, there  
23 are times when we can't even understand that and  
24 there are examples that I can give to you from  
25 my review of literature published by scientists

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1 funded by the CTR.

2 Q. Wouldn't it have been a better title  
3 for the Council to be called the Council for  
4 Anything But Tobacco Research?

5 MR. SHELY: Objection. Argumentative.

6 I'm not going to allow him to answer that  
7 question.

8 MR. HOAG: You're not letting him  
9 answer the question?

10 MR. SHELY: I'll let him answer it. I  
11 retract it. I will let him answer with the  
12 same note of sarcasm in which he wants to.

13 Answer it, please. Answer that, Doctor.

14 A. I think that's a pretty silly  
15 questions because I think there is no question  
16 that across the spectrum of research funded by  
17 the Council for Tobacco Research, that the  
18 density of research projects devoted to tobacco  
19 and issues related to nicotine and diseases in  
20 which tobacco has been suspected as being  
21 involved or associated, there is no question in  
22 my mind that the Council for Tobacco Research,  
23 pound for pound, founded more research than any  
24 other agency in the country.

25 Q. Is there any question in your mind

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1 that CTR was influenced by tobacco industry  
2 attorneys?

3 MR. SHELY: Objection. Asked and  
4 answered several times.

5 A. Again, I think we've gone through  
6 already the relationship between tobacco -- my  
7 understanding of the relationship of tobacco  
8 industry lawyers and the Council for Tobacco  
9 Research. So I don't know if there's any more I  
10 can add to that.

11 Q. Do you know how much money Doctor  
12 Sterling received for doing CTR special  
13 projects?

14 A. I don't recall that figure. I will  
15 use the term RAM, random access memory. It's  
16 not in high RAM but I would imagine it was a  
17 considerable amount of money.

18 Q. Does the figure four point seven  
19 million dollars refresh your recollection?

20 A. That probably is not an inordinate  
21 amount for projects that had the duration that  
22 you indicated before and for research that is as  
23 complex as looking at environmental air quality.

24 Q. Do you know whether or not the tobacco  
25 industry used research of Doctor Sterling to

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1 defend themselves against lawsuits?

2 A. No, I don't. I have no basis to make,  
3 to have an opinion on that.

4 Q. Do you know whether or not  
5 environmental tobacco smoke causes any disease?

6 A. Not to my knowledge, it does not.  
7 That's outside my field of expertise, though.  
8 I'm not an expert in disease and certainly not  
9 an expert in environmental air quality.

10 Q. Do you know any of the other people  
11 who work on the CTR staff other than Doctor  
12 Glenn, the name of any other people?

13 A. Yes. Over the years in my  
14 interactions as a grantee, I've gotten to know  
15 several of the associate directors. I don't  
16 recall the precise titles now. They have  
17 probably changed over the years but among the  
18 individuals who have been my contact person,  
19 contact person is a person at CTR on the staff  
20 who interacts with the grantee and answers  
21 questions about administration of the finances  
22 or about their research project and from time to  
23 time someone from the staff, usually the contact  
24 person, will make a site visit to the grant to  
25 have on-site discussions with the funded

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1 investigator about the research program as well  
2 as a wide range of scientific issues.

3                   In my course of interactions with  
4 scientific advisors, I have gotten to know  
5 Doctor George Hashish who is currently the high  
6 contact. I've also met Doctor Arthur Eisenberg  
7 at a meeting of the New York Academy of Sciences  
8 sometime a few years ago, and I got to know  
9 Doctor Donald Ford who is a member of CTR.

10                  As it turns out, Doctor Ford was one  
11 of my professors when I was in graduate school  
12 when he was a professor of anatomy at State  
13 University of New York Health Sciences Center in  
14 Brooklyn.

15                  Q. It's your understanding that Doctor  
16 Glenn is the scientific director?

17                  A. That's my understanding, yes.

18                  Q. Is that a full-time job?

19                  A. I'm not certain. I don't have the  
20 knowledge to base an opinion, to express an  
21 opinion about that.

22                  Q. Do you know whether there's enough  
23 work for that person to do to be a full-time, 40  
24 hour a week job?

25                  A. I can imagine it would. I think

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1 individuals would have, or who hold similar  
2 positions at other funding agencies are employed  
3 full-time.

4 Q. Do you know whether or not Doctor  
5 Glenn is employed full-time?

6 MR. SHELY: Asked and answered.

7 A. No, I don't.

8 Q. Do you know what Doctor Glenn's  
9 permanent residence is?

10 A. There may have been something about  
11 that in his affidavit and his CV, but I don't  
12 recall the precise details.

13 Q. Do you know where CTR is located,  
14 headquartered?

15 A. Yes, the Council for Tobacco Research  
16 is somewhere in Manhattan, in New York State.

17 Q. Do you know what Doctor Glenn's annual  
18 compensation for his employment with CTR is?

19 A. No, I don't.

20 Q. Do you know whether or not Doctor  
21 Glenn owns any stock or shares of stock in  
22 tobacco companies?

23 A. No, I don't.

24 Q. Does it matter to you?

25 A. Again, it comes to an issue of

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1 personal integrity and I have no reason to  
2 believe that it should matter.

3 Q. If research that CTR did would cause  
4 the price of tobacco stock to go down, would it  
5 make any difference whether a person running CTR  
6 owns shares of stock in tobacco companies?

7 MR. SHELY: Let me object because you  
8 keep referring that CTR does and I  
9 think ---

10 BY MR. HOAG:

11 Q. The research that CTR funds, I'm  
12 sorry.

13 A. So the question again is that if  
14 research that CTR funds would cause tobacco  
15 funds to go down -- could you complete that for  
16 me?

17 Q. Doesn't that mean that a person who  
18 runs CTR should not be in a position where they  
19 have to worry about whether their own shares of  
20 stock are going to increase or decrease in value  
21 based on research that is done at CTR?

22 MR. SHELY: Let me object first  
23 because you said research done by CTR, but  
24 it's an incomplete hypothetical of facts  
25 not in the record and outside of Doctor --

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1                   this witness's expertise.

2 BY MR. HOAG:

3                   Q. Research funded by CTR. Put in the  
4 word funded instead of done.

5                   A. I would think that it is the norm.  
6 That even if it was the case if someone had the  
7 duties or responsibility of Scientific Advisory  
8 Board, a member or a scientific director for an  
9 organization, not-for-profit organization like  
10 the Council for Tobacco Research, call me naive,  
11 but I would assume these people would conduct  
12 themselves with utmost integrity and that they  
13 would not, their private holdings in stocks  
14 would have no bearing on how they would function  
15 professionally.

16                   Q. Regardless of the financial  
17 consequences to them, is that correct?

18                   MR. SHELY: Same objection.

19 BY MR. HOAG:

20                   Q. Is that correct?

21                   A. I believe I've answered that already.  
22 Again, these people I would, I may be an  
23 idealist, but I do assume people will conduct  
24 themselves professionally.

25                   Q. So, is there any reason for CTR to

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1 have an independent Scientific Advisory board?

2 MR. SHELY: Could you restate that?

3 BY MR. HOAG:

4 Q. Is there any reason for CTR to have a  
5 Scientific Advisory Board, an independent  
6 Scientific Advisory Board versus just doing  
7 special projects through CTR that are funded by  
8 the tobacco industry?

9 A. I think so. As a not-for-profit  
10 organization that funds biomedical research, it  
11 is common practice to have Scientific Advisory  
12 board and peer review process is, for better or  
13 worse, the state of the art process for  
14 distributing grant funds privately or publicly  
15 in this country and across the world, so I think  
16 that process is well within the realm and the  
17 norm for grant giving organizations such as the  
18 CTR.

19 Q. So that special projects are outside  
20 of the norm, correct?

21 MR. SHELY: Objection to the form.

22 Misstates testimony.

23 A. No. As I mentioned before, there's a  
24 lot of issues there, again, running all the way  
25 to who has the ultimate responsibility for

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1 publishing the results and did they do that  
2 independently, and the special projects as a  
3 form of giving grants out to people to conduct  
4 research, and in the case of the CTR related to  
5 tobacco use, health and disease is also within  
6 the norm within the realm of operations of grant  
7 giving agencies. It's often the case that there  
8 are things that RFA's, request for applications  
9 where agencies look around at its portfolio to  
10 balance its program, areas of research it is  
11 interested in by seeking people who are experts  
12 to conduct research in particular areas,  
13 particularly of those areas of research that  
14 might not be in fashion in the -- and  
15 competitive in an open peer review competition.

16 Q. Do you plan on requesting funding for  
17 any other projects that you may have through  
18 CTR?

19 A. Well, at the moment I'm not -- I don't  
20 plan that far ahead. If it is still in  
21 existence and if our research is in an area  
22 where I think we have a chance to get funding  
23 from them because it's an area of interest to  
24 them as well, I certainly would take advantage  
25 of that opportunity.

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1           It's very difficult these days to get  
2 research funding. There isn't a lot around and  
3 scientists, you know, serve themselves as they  
4 search for impossible sources for research, for  
5 funding for their research.

6           Q.    Do tobacco companies market their  
7 products to children?

8           MR. SHELY: Objection. That's way  
9 outside the scope.

10          BY MR. HOAG:

11          Q.    You can answer it.

12          A.    I don't know that I'm qualified to  
13 address that, that question.

14          Q.    So your answer is you're not qualified  
15 to answer?

16          A.    Right.

17          Q.    Have you ever seen the Joe Camel  
18 billboards?

19          A.    Yes, I have.

20          Q.    Do those appeal to children?

21          MR. SHELY: Same objection. Outside  
22 the scope.

23          A.    I'm not certain. I'm not a child but  
24 I have seen adults wearing Joe Camel t-shirts,  
25 so I would imagine that it does have some appeal

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1 to some adults.

2 Q. Have you seen any adolescents wearing  
3 Joe Camel t-shirts?

4 A. I don't believe that I have, no.

5 Q. But you've seen adults?

6 MR. SHELY: Say that again, please.

7 BY MR. HOAG:

8 Q. You've seen adults wearing Joe Camel  
9 t-shirts but you've never seen any adolescents  
10 wearing Joe Camel t-shirts, is that correct?

11 A. That's correct.

12 Q. Do you know what Camel gear is?

13 MR. SHELY: Say that again.

14 BY MR. HOAG:

15 Q. Do you know what Camel gear is?

16 A. Camel year?

17 Q. Camel gear.

18 A. Gear, it's probably clothes and things  
19 like that, packs or gunnysacks that are sold. I  
20 don't know, I haven't really looked at any so  
21 I'm not sure what, but I know like Pepsi gear or  
22 Coke gear, I know there are some producers of  
23 consumer products that will award points or  
24 things like that for purchases toward free or  
25 price saving discounts for clothing or

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## 1 | accessories.

2 Q. Are you aware of whether or not Camel  
3 Cigarette Company or brand offers such  
4 promotions?

5 A. I really -- I'm sorry, I haven't  
6 really paid attention to that. I think I  
7 wouldn't be surprised if they did.

8 Q. Do you know whether Marlboro offers  
9 such promotions?

10           A.     I wouldn't be surprised if they did  
11     but I'm not -- that's not something that I paid  
12     attention to.

13 Q. Have you ever seen Marlboro  
14 billboards?

15 A. Yes.

Q. What's depicted on those billboards?

17           A.    Usually a cowboy, the image of a  
18    cowboy.

19 Q. Does that appeal to adolescents?

20 MR. SHELY: Objection. Outside the  
21 scope. Lack of foundation, expertise.

22 A. I don't know. I haven't asked any  
23 adolescents if it appeals to them or not.

24 Q. The cowboy depiction on billboards,  
25 was that used when you were an adolescent?

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1           A. It may have. I don't remember. I  
2    really didn't pay a lot of attention.

3           Q. Do you agree that the tobacco industry  
4    has to replace -- if it's going to remain a  
5    tobacco industry, has to replace dying and  
6    quitting smokers with young smokers?

7           MR. SHELY: Objection.

8           Argumentative. Lacks expertise. It's far  
9    beyond the scope for which this witness was  
10   proffered.

11   BY MR. HOAG:

12   Q. You can answer.

13   A. I don't believe that I can render any  
14   sort of expert opinion about that.

15   Q. What's your understanding of the  
16   purpose of your testimony today?

17   A. Well, the purpose of my testimony is  
18   to answer questions that you raise. My  
19   understanding is that it's part of the discovery  
20   process.

21           My understanding is that the Council  
22   for Tobacco Research and the people here at  
23   Bryan Cave have asked me if I would testify on  
24   behalf of the Council for Tobacco Research in  
25   some -- a few cases, including the Engle case

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1 and I agreed to, and this activity allows you to  
2 get a feeling about what I am willing, what I am  
3 going to testify about and to kind of limit the  
4 areas in which I have expertise or do not.

5 Q. Have you reviewed any depositions in  
6 the Engle case?

7 MR. SHELY: Can you defer to counsel on  
8 that because he may not necessarily know.

9 MR. HOAG: To refresh his recollection,  
10 sure.

11 MR. SHELY: Okay.

12 A. I can answer and then I can ask  
13 counsel in what cases.

14 MR. SHELY: Okay.

15 A. Those depositions apply but I read the  
16 overall deposition and the -- is it Shields?

17 MR. OTT: He looked at Susan Oparil's  
18 deposition in the Texas Attorney General  
19 case and he also looked at Oparil's expert  
20 disclosure and Jim L. Shield's disclosure,  
21 both in the Texas case.

22 BY MR. HOAG:

23 Q. Aside from reading the Shield's  
24 disclosure, did you read any deposition of Mr.  
25 Shields? I don't even know if there was one

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1 taken.

2 A. I haven't read a deposition of his.

3 Q. Did you read Susan Oparil's deposition  
4 taken in the Texas AG case?

5 A. Right.

6 Q. Is that the only deposition you've  
7 read?

8 A. Yes.

9 Q. And what was Susan Oparil's deposition  
10 about?

11 A. It was about the Council for Tobacco  
12 Research, again, I guess relating to, relating  
13 to functions of the Council for Tobacco  
14 Research, kinds of science that was funded by  
15 the Council for Tobacco Research.

16 Q. Did you learn anything knew about the  
17 Council for Tobacco Research that you didn't  
18 know prior to the time you read it?

19 A. There may have -- to my recollection,  
20 most of what was discussed in that deposition  
21 related to information that was available to me  
22 in the form of documents that I had the  
23 opportunity to review.

24 So I don't know that there's anything  
25 knew I encountered there. I don't recall.

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1 There is nothing that clearly stands out as  
2 something new to me in looking at the Oparil  
3 deposition. In fact, I kind of came away in  
4 reinforcing my perspective about what was  
5 involved in a deposition.

6 Q. Is it your understanding that your  
7 deposition will be of assistance to the tobacco  
8 industry?

9 A. I don't know that it will, so I don't  
10 know that it will. I think the jury is out on  
11 that.

12 Q. Is your purpose to provide testimony  
13 that is of assistance to the tobacco industry?

14 A. No, but -- no.

15 Q. Have you read any books about the  
16 tobacco industry?

17 A. No, I haven't.

18 Q. Have you ever heard of a book called  
19 The Cigarette Papers?

20 A. No, I have not.

21 Q. Have you read any articles in the  
22 Journal of the American Medical Association  
23 concerning the tobacco industry?

24 A. From time to time I have, but the  
25 journals of the AMA is one of the journals that

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1 I routinely review.

2 Q. Have you read any articles by Stanton  
3 Glance?

4 A. Not to my recollection.

5 Q. Have you reviewed the Brown and  
6 Williamson internal documents that are now in  
7 the public domain and can be found, for example,  
8 on the Internet?

9 A. No, I have not.

10 Q. Do you plan to?

11 A. I don't know that I will, because I'm  
12 not sure that they relate to the functions of  
13 the Council for Tobacco Research.

14 Q. You don't know whether they do or  
15 don't relate to the functions for the Council of  
16 Tobacco Research, is that correct?

17 A. That's right.

18 Q. Why do you not plan to look at the  
19 documents to find out if they relate?

20 A. Well, if it's something that comes up,  
21 then I certainly -- and that it would be  
22 relevant to depositions or testimony, I  
23 certainly would look at them, but it wasn't part  
24 of my plan to look at them.

25 Q. Do you think those internal documents

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1 could be in any way relevant to your opinion  
2 regarding the integrity of CTR?

3 MR. SHELY: Objection. Without having  
4 seen them he cannot form an opinion.

5 A. It would be difficult to have an  
6 opinion about that without having seen those  
7 documents but, again, as I again perhaps  
8 suggested earlier, there may -- if I may  
9 speculate wildly ---

10 MR. SHELY: I don't want you to  
11 speculate.

12 THE WITNESS: You don't want me to  
13 speculate?

14 MR. SHELY: Just answer the question.

15 A. I don't know that they necessarily  
16 would influence my opinion.

17 Q. So they might influence your opinion.  
18 You just don't know?

19 MR. SHELY: Objection.

20 BY MR. HOAG:

21 Q. Correct?

22 A. Again, the internal documents have no  
23 bearing, they may have relationships to  
24 something that maybe it was intended or a wish  
25 of someone, but as to whether they actually

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1 impacted any operations of the CTR, I see no  
2 evidence that they did.

3 Q. Well, if you don't look at the  
4 evidence you can't see the evidence, can you?

5 A. Well, again, I think much of my  
6 evaluation about the scientific programs funded  
7 by the Council for Tobacco Research relates to  
8 the proof in the pudding, the publications and  
9 how scientists will look back retrospectively at  
10 the value of the science that was funded by  
11 their organization.

12 Q. Does the fact that articles are  
13 published in peer review journals indicate to  
14 you that CTR was not influenced by the tobacco  
15 industry?

16 MR. SHELY: Objection. Lack of  
17 foundation.

18 A. Again, I have no reason to believe  
19 that the CTR was influenced by the tobacco  
20 industry, and again, the proof is in the  
21 pudding, and that CTR -- a lot of work has been  
22 published through the CTR, and once the peer  
23 review process and the scientific investigative  
24 process is underway, I think that that process  
25 operates independently.

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1           Q.    Have you ever heard of a frank  
2        statement to cigarette smokers?

3           A.    Yes, I have.

4           Q.    What is it?

5           A.    I believe it was an advertisement  
6        published by the tobacco industry in the  
7        1950's.

8           Q.    And what did it say?

9           MR. SHELY: Objection. You can't  
10        answer that without it in front of him.

11           MR. HOAG: Well, he can if he can.

12        BY MR. HOAG:

13           Q.    What did the frank statement say? What  
14        do you recollect?

15           A.    Well, I don't remember all the  
16        details, but I think the general theme of it  
17        concerned issues relating to tobacco use and  
18        health, and there may have been a passage there  
19        about formation of Council for Tobacco Research  
20        and its previous incarnation as the Tobacco  
21        Industry Research Council.

22           Q.    Do you recall whether the frank  
23        statement included the following language:

24                    We accept an interest in people's  
25        health as a basic responsibility paramount in

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1 every -- to every other consideration in our  
2 business.

3 A. Well, without having the frank  
4 statement in front of me, I can't verify that  
5 but, if you're reading verbatim, then I'm sure  
6 that's what's in the statement.

7 Q. In the frank statement, did the  
8 tobacco industry promise to fund independent  
9 research to find out whether or not tobacco  
10 caused any disease?

11 MR. SHELY: Let me object to that.

12 Promise is a legal term. He's not a  
13 lawyer. He's not in a position to render  
14 expert opinions about legal issues.

15 BY MR. HOAG:

16 Q. You can answer.

17 A. I do recall again that there would be  
18 formations of the TIRC, Tobacco Industry  
19 Research Council, and that they would  
20 investigate issues related to tobacco health and  
21 disease.

22 Q. And do you recall in the frank  
23 statement they said there wasn't -- at that time  
24 when it was printed in 1954, there wasn't  
25 sufficient evidence to prove that cigarette

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1       smoking caused any disease?

2           A.    If -- I think there's something like  
3       that and if, in fact, you're quoting the frank  
4       statement directly, then I'm certain that's what  
5       it said.

6           Q.    And you're aware that the research  
7       area that you're most interested in -- well, let  
8       me withdraw that question.

9               The research that you have done that  
10      has been funded by CTR has not been concerned  
11      with tobacco smoking and health, correct?

12           A.    It hasn't -- no, I haven't used  
13      tobacco smoke at all as a variable in my  
14      experiment.

15               As I mentioned before, our research  
16      isn't principally concerned with health issues,  
17      but we are studying basic phenomena, principally  
18      targets in the brain and body for nicotine.

19               MR. HOAG: I have no other questions.

20               MR. SHELY: We'll read and sign.

21               (Thereupon, the taking of the  
22      deposition was concluded at 4:00 p.m.)

23

24

25

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My Commission Expires:

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**CERTIFICATE**

STATE OF FLORIDA )

COUNTY OF DADE )

6 I, DONNA L. GUNION, a Notary Public in  
7 and for the State of Florida at Large, do hereby  
8 certify that, pursuant to a Notice of Taking  
9 Deposition in the above-entitled cause, RONALD  
10 LUKAS was by me first duly cautioned and sworn  
11 to testify the whole truth through Kathy Stine,  
Notary Public, and upon being carefully examined  
testified as is hereinabove shown, and the  
testimony of said witness was reduced to  
typewriting under my personal supervision and  
that the said deposition constitutes a true  
record of the testimony given by the witness.

13 I further certify that the said  
14 deposition was taken at the time and place  
15 specified hereinabove and that I am neither of  
counsel nor solicitor to either of the parties  
in said suit nor interested in the event of the  
cause.

**DONNA L. GUNION**

Notary Public, State of Florida at Large;  
My commission expires July 30, 2001.



Domestic Division  
MY COMMISS  
BONDED THE: ~



Donna L. Gunion  
MY COMMISSION # CC648142 EXPIRES  
July 30, 2001  
BONDED THRU TROY FAIR INSURANCE, INC.

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